The Veterinary Journal

AND

Annals of Comparative Pathology.

NOVEMBER, 1898.

THE NEW VETERINARY COLLEGE, EDINBURGH.

The winter session of this college commenced on Wednesday, the 5th October. Principal Williams occupied the chair, and amongst others present were the Right Hon. Lord Provost of Edinburgh; Judge Kellock, Edinburgh; Councillor Hunter, Edinburgh; Parish Councillor Wilson, Leith; Mrs. W. O. Williams, Mrs. Sealy and Miss Sealy, Misses Macadam, Mrs. Davis, Miss Flint, Mrs. Ogilvy, Mrs. Betts, Miss Horsburgh, M. Macgregor, S.S.C.; Messrs. A. Boyd, F.R.C.V.S., Melrose; J. Armstrong, F.R.C.V.S., Penrith; R. Rutherford, F.R.C.V.S., Edinburgh; Professor C. C. Baird, Edinburgh; John Borthwick, M.R.C.V.S., Kirkliston; J. McLauchlan Young, F.R.C.V.S., Aberdeen; T. A. Porteous, M.R.C.V.S., Galashiels; J. Aitken, M.R.C.V.S., Dalkeith; J. Aitken, jun., M.R.C.V.S., Dalkeith; J. Aitken, M.R.C.V.S., Edinburgh; P. Moir, M.R.C.V.S., Edinburgh; J. Hutton, F.R.C.V.S., Kelso; W. D. Connochie, M.R.C.V.S., Selkirk; J. R. Baillie, M.R.C.V.S., Cupar; H. Thompson, M.R.C.V.S., Aspatria; T. M. Inglis, M.R.C.V.S., Forfar; J. Riddoch, M.R.C.V.S., Edinburgh; W. Dotchin, M.R.C.V.S., Newcastle; S. Gould, M.R.C.V.S., Southampton; R. C. Cochrane, A.V.D., Scots Greys; A. Macgregor, M.R.C.V.S., Crieff; J. Young, M.R.C.V.S., West Calder; G. A. Balfour, M.R.C.V.S., Dunbar; Vet.-Major Whitfield; J. Campbell Irons, Esq., W.S., Edinburgh; M. Macgregor, Esq., W.S., Edinburgh; Captain R. Steuart, of Westwood; T. Glasspool, Esq., Dalkeith; A. Ogilvy, Esq., Edinburgh; R. H. Betts, Esq., S.S.P.C.A., Edinburgh; D. Young, Esq.; H. Williams, Esq., Edinburgh; R. S. Gray, Esq., Southfield; Dr. Harvey, Edinburgh; A. Grant, Esq., Forfar; Mr. McGuire,

Mr. Davidson, Mr. Plue, and Professors W. Owen Williams, Jas. Hunter, W. Ivison Macadam, O. C. Bradley, R. M. MacDougall, and W. R. Davis.

There was a long list of apologies from gentlemen unable to be present.

The PRINCIPAL, in opening the proceedings, stated that the college had now completed its semi-jubilee, and that it was still in a flourishing condition.

Professor DAVIS then delivered the following address :—

Professor DAVIS, on rising, said : This opening marks an epoch in the history of the New Veterinary College. It is a quarter of a century ago since this institution came into existence, and now, on its twenty-fifth anniversary, after having experienced the vicissitudes common alike to institutions as well as to individuals—having basked in the sunshine of prosperity and plodded bravely on through times of depression—we find it at what I may call its majority in the enjoyment of a robust constitution—vigorous, hopeful, flourishing. Its founder, our perennial principal, is presiding in his usual happy manner over us to-day ; in his therapeutic studies he appears to have stumbled on the *elixir vita.* He must look back, one would think, with peculiar satisfaction on his life's work. His boys, students who own this institution as their *Alma Mater,* and to whom he stands as a father professionally, are to be found in every quarter of the globe, many of them filling important professional posts, and all of them, I think, looking back on their college days with a grateful and affectionate regard for their old teacher.

The successes attained by our candidates in the past are not likely to suffer diminution at the hands of our present students. We had an excellent pass at the May professional examination, and finished up by the representative from this college, Mr. W. Jowett, winning the first FitzWygram prize of fifty pounds for the best student from the English and Scottish colleges.

This occasion gives us the opportunity of offering to those who have just joined, as well as to those who are returning to college, a hearty welcome to these walls. You should have our sympathy, for we are all students and must continue to be so ; there is no finality in the acquirement of veterinary knowledge. I trust you are all animated by a desire to do your duty. You all have a duty to perform to those who send you here, to yourselves, and to your college. I can assure you that there is no place here for loafers.

In the course of its evolution the veterinary profession has eliminated the rowdy element from its students. In these days there is very little chance to idle away a great part of the session and fluke through the examination by a few weeks' hard reading at the end. The hours that must be spared for recreation are to a great extent devoted to athletics and are not employed in dissipation, as is sometimes supposed ; and here I would urge every one of you to join, and not only join but become active members, of the athletic club connected with the college. Success can only be obtained by determined and continued effort. We are not all gifted alike. Some of you may be in the position of Charles Lamb when he complained that his head did not contain many mansions nor spacious ; but courage ; application may make you equal the brightest who are sometimes apt to be over-confident. It is said that genius consists in an infinite capacity for taking pains. Remember what Bailey says : "It cannot be too deeply impressed on the mind that application is the price to be paid for mental acquisitions, and that it is as absurd to expect them without it as to hope for an harvest where we have sown no seed."

It is not to be all book-learning, however, or principally that. It goes

without saying that final students must acquire their knowledge to a great extent in a practical manner if that knowledge is to be of any service to them at the examination for the diploma, and for that other examination that awaits them after they have obtained that coveted parchment—their professional examination by the public, namely, medicine, surgery, and meat inspection. A mere text-book knowledge of these subjects would be a sorry equipment to front the examiners with. But it is not only for the final subjects that the practical training is essential ; it must be equally undertaken in the other stages of your education. In your third year you may pore for hours over elaborate text-books, descriptions of diseased processes, and results without having enriched your real knowledge of pathology any more than a few minutes' examination of a morbid specimen would afford. It is the same with regard to hygiene. To the byre and the stable you must go if you are to know the best methods of building, ventilating, and draining these structures, and of feeding, watering, and generally caring for their inmates. As to materia medica, I will say this, that there is no subject in the whole course of your studies over which more time and misdirected, fruitless, wearisome labour may be wasted. If you want to get a useful knowledge of drugs—not only of their physical characters, but of their uses, doses, and composition—you must handle them, weigh them, mix them, become familiar with them. Not to prose too much, you will understand that what I have said about practical work applies equally to the subjects of your second and first year. Anatomy and physiology, chemistry and botany, and zoology, what use is a mere book knowledge of these sciences, and how long will one retain a knowledge so acquired? To use a simile from Carlyle, as in some chemical mixture that has stood long evaporating but would not crystallise, instantly when wire or other fixed substance is introduced, crystallisation commences and rapidly proceeds till the whole is finished. So it is with scientific lore acquired merely from text-books. It is floating about in the mind in a chaotic, disconnected, un-useable manner when practical study comes to crystallise it, and render it useful and permanent.

The rather formidable list of subjects which I have just mentioned as being those to which you have to apply yourselves and in which you have to be examined, is sufficient indication that a good deal of hard work lies before those who, like you, have adopted the veterinary profession as a calling. Indeed, our pessimists tell us that the game is now not worth the candle, and for those whose idea is to make a fortune without much exertion, another vocation should certainly be adopted. Still, for men—I regret that we are ungallant enough to exclude the nobler sex—who are adapted to undertake its duties, the profession of veterinary surgeon is a very interesting one, and demands from those who would excel in it the exercise of some of the best qualities with which a man can be endowed, must have patience, self-reliance, pluck, keen powers of observation.

Oliver Wendell Holmes says somewhere that association with horses is conducive to swearing and drinking, and to a distaste to mob caps and the middle-aged virtues. Similarly the title veterinary surgeon suggests to some people a tight clad, straw chewing individual, addicted to alcoholic beverages, and possessed of such a wealth of imprecation as might make even Ernulphus himself despair. I hope this notion is getting obsolete. Our profession only dates back a poor hundred years to the founding of the London College in 1791, and its inception was the result of the necessity to cope with the losses in horses occasioned by glanders and by bad shoeing. Forty years later we obtained a Charter, and in 1881 an Act of Parliament gave us the exclusive right to the title "veterinary," and protected us from quacks. Young as our profession is, we have good reason to be proud of its traditions. We have,

like the medical profession, emerged from the realm of empiricism. The education of the modern veterinarian is, so far as can be, founded on a scientific basis.

The investigation into the nature of the contagious diseases that from time to time have inflicted terrible losses on the owners of stock, and to suggest remedies for these visitations, has been deputed to us. An eloquent commentary on how we have performed that duty is furnished by the Government returns under the Contagious Diseases (Animals) Act—rinderpest, sheep-pox, foot-and-mouth disease, and pleuro-pneumonia are almost forgotten diseases. Rabies has been greatly reduced, and in a few years will cease from troubling. I do not intend to afflict you with a lot of statistics. I would ask, however, to be allowed to give a few figures in connection with rabies, and will give the number of dogs affected for the last four years, during the first 39 weeks of each year:—

1898..	14	1896	393
1897..	129	1895	538

The decrease is entirely due to the enforcement of the Muzzling Order. Glanders is seldom heard of out of London, and will, if the recommendations given are adopted in their entirety, be abolished altogether. Swine fever is abating somewhat, and only demands larger restrictions on movement of pigs to stamp out the disease.

In last week's *Veterinary Record* the question is asked why the Board of Agriculture do not make regulations for suppressing swine fever and glanders as efficacious as those for stamping out rabies and pleuro-pneumonia, and adds, "We confess our inability to answer, but we are certain that there is no veterinary surgeon who does not know what additional regulations are requisite to render the extermination of glanders and swine fever as certain a success as that which has attended the Board's struggles with rabies and pleuro-pneumonia." And then Mr. Hunting, the editor, an authority on glanders, goes on to indicate what those regulations ought to be, viz., testing with mallein and compulsory slaughter and fair compensation. Swine fever, Mr. Hunting says, needs better enforcement of the present regulations and severe restriction on movement of swine to stamp it out.

With regard to tuberculosis, which causes more loss than all the diseases mentioned put together, in the absence of legislation, we keep pegging away educating stockowners as to the nature of the malady, insisting on its contagiousness, recommending it early diagnosis by the only means, namely, tuberculin; the isolation of affected animals; the placing of stock under good hygienic conditions.

The ravages of many other diseases which are preventible have been minimised by our counsels. Anthrax, black quarter, milk fever, mammitis in cattle, fluke and septic metritis in sheep, distemper in dogs are among these.

By recommending enlightened methods in the shoeing of horses—methods that are based on a knowledge of the anatomy and physiology of the horse's foot—we have, both in the army and civil life, saved the nation incalculable sums of money—to say nothing of the gain from the humanitarian side.

In no direction has the good effects of our work been more conspicuous and more cordially acknowledged than in the army. The Army Veterinary Department has justified the saying that

> A skilful leech is better far
> Than half a hundred men of war.

Glanders, mange, and bad shoeing, before the formation of the department at the end of last century, used to render a large percentage of the cavalry

horses useless. Yet now, thanks to the efforts of this special branch of our profession, the duration of service of the horses has been greatly prolonged, the cost has been lowered, the condition of the animals greatly improved, and the percentage of disease materially reduced. At the recent meeting of the National Veterinary Association, Mr. A. W. Mason, the president of the R.C.V.S., stated that "not one single case of glanders exists in the British army, a condition which I venture to say cannot be claimed by any other army in the world; neither has a case occurred in Egypt." In this room two years ago General Chapman, Commander of the Forces in Scotland, paid, in most eulogistic language, a grateful tribute to the efficiency and zeal of the officers of this department. Here, then, at least we receive recognition, and our efforts obtain from those best qualified to judge that meed of praise which stimulates endeavour and makes success.

You will gather from what I have said that our mission is not only to cure the maladies that affect animals. Apart from his medical *rôle*, the ideals of the modern veterinary surgeon are associated with the prevention of disease. So that you must not consider your vocation limited to the use of a drenching horn. The curative treatment of disease is, however, an essential part of our work. For success in it, above all things, is necessary the power of observation. Our only method of questioning our patients is to closely watch and examine them. We can only hope to arrive at proficiency in diagnosing disease by cultivating the power of observing and of rightly interpreting what we see and hear, and when we have attained this power we have mastered the greater part of medicine. Without this faculty we must be always groping in the dark, and any treatment we adopt is only worthy of the name of quackery.

Many of the diseases that affect animals are capable of being transmitted to man, and this transmission may take place during the life of the animal or from the use of its carcase as food. Of these diseases the most redoubtable are anthrax, rabies, glanders, and tuberculosis, but there are many more, some of less frequent occurrence, and some whose transmissibility is only suspected. As permanent officials attached to boards of health for the purpose of inspecting stock, and as meat inspectors, our profession must soon be widely employed. Boards of health and local authorities, although at present not availing themselves of our services as frequently as their best interests should prompt them to do, or as our capacity to serve them deserves, are beginning to find that no one can replace the trained veterinarian where it is a question of safeguarding the public against the danger of contracting disease from animals, and for the detection and suppression of contagious disease among stock. One reason why more public employment is not offered the veterinary surgeon is that as a profession we are affected with an unconscionably large share of modesty—a losing modesty. We should pray for "a guid conceit o' oursels." Conceit is to human character—and to professional character too—what salt is to the ocean: it keeps it sweet and renders it endurable. We should therefore think as highly of ourselves as we are justified in thinking, and as this is no world to hide virtues in, we should let the public and the authorities know our worth, what our qualifications are, and in what direction we can serve them. Surely the special training that we receive, and our daily contact with animals in health and in disease, should make us adapted above any other body of men for the duties that I have indicated. There has been a tendency on the part of some members of the medical profession, medical officers of health particularly, to ignore our claims in this respect, if not to ignore us altogether. Witness the original of the Public Health (Scotland) Act, in which it was proposed that the M. O. H. was to decide, if he was so minded, without the

aid of a veterinary surgeon, whether cattle in a byre were healthy or not. At the recent meeting of the British Medical Association in Edinburgh a paper was read upon false tubercle in sheep. The paper, to put it mildly, was not free from errors. What information it contained was extremely belated, and although the malady has been worked at by veterinary surgeons and its nature well known to every student, no reference whatever was made by the author to observations that have been published upon it by members of our profession. It is pleasant, however, to have to add that by other members of the medical profession, who know us better, our claims are acknowledged, and it is admitted that our work may be ever complementary to and not conflicting with that of the medical officer of health.

The profession that you propose to enter has intimate relations with the health and wealth of the nation. Its past history witnesses that it has deserved well of the country. It needs no apologist; but it does need to have its importance, its usefulness, and its possibilities better known and more adequately recognised. We are doing our best, and at some risk of impoverishing ourselves, to check animal diseases. Surely common justice demands that in all work in connection with these diseases our profession should not be passed over. You must resolve to make yourselves so proficient in your calling that no lack of skill on your part may afford grounds for such appointments going to others. A good deal has been said and written about the social status of the veterinarian. Your position in this respect will depend entirely upon yourselves—upon your conduct, your attainments, and your associates. There is no profession so exalted but it will furnish examples of low, mean, vulgar, and contemptible characters. Sidney Smith said, "There are some men of such metallic nerves and blunt entrails that Milton could never have written them into sublimity or Michael Angelo painted them into emotion" Similarly, no profession is capable of ennobling or lending dignity to some men. See that you make yourselves worthy of your profession, because it is worthy of the best of you.

The Principal, when he invited me to address you, desired that I would cut it short, holding out in terrorism the awful example of a too prolix inaugural address, the latter part of which was delivered after the bulk of the audience had escaped. I am fully conscious how inadequate to the occasion my remarks have been, but I will, at any rate, not incur the censure of empty benches. I therefore offer you a hearty welcome to the college, wish you success at the examination-table, and thank you all for the indulgent attention with which you have listened to me.

Principal WILLIAMS remarked that the profession was not asleep in regard to the questions upon which Professor Davis had touched. With regard to the inspection of disease in cattle and the inspection of meat, it was proposed to have a new degree in veterinary medicine. If they could pass the examination for this degree and give satisfaction to the public, they need not fear very much those endeavours which had been made, and which doubtless would still be made, by the medical profession to rob the veterinary profession of its inheritance—for he seriously maintained that it was the birthright of veterinary surgeons to be inspectors of cattle. It was a reflection upon the veterinary profession to have as travelling inspectors army and navy men who, though first-

rate fellows as soldiers and sailors, were like fish out of water in the inspection of cattle.

The LORD PROVOST, in moving a vote of thanks to Professor Davis, reminded the students that theirs was a noble profession, because they had it in their power, not only to do much to alleviate the sufferings of dumb animals, but to join hands with the medical profession in the care of the public health. He could not help congratulating the students of the college on having at their head one who was so well known and so highly respected in the profession as Principal Williams. Though the students had no doubt chosen the veterinary profession as a means of livelihood, he would venture to remind them that no man could attain success, financially or otherwise, in his profession unless he were in love with it. The college had been successful in the past, and he wished it and Principal Williams all success in the future.

On the motion of Major WHITFIELD, Army Veterinary Department, and a former student of Principal Williams, a vote of thanks was passed to the Principal.

A PROTEST AGAINST THE ROUTINE USE OF OLEAGINOUS PURGATIVES IN EQUINE GASTRO-INTESTINAL DERANGEMENTS.

BY J. CLARKSON, M.R.C.V.S., GARFORTH.

JUDGING by the numerous prescriptions given in the published cases of gastro-intestinal derangements of the horse, it seems to be the general practice to prescribe linseed oil as a purgative, or as a vehicle for antispasmodics, anodynes, and carminatives.

At one time it was my custom to use and recommend its use in these cases, but latterly I have ceased to do so because I have come to regard it as—

(*a*) Too slow and uncertain in its action to be used as a purgative, except, perhaps, in diseases in which the intestinal tract is not primarily involved and where little depends on its action.

(*b*) By interfering with the rapid absorption and reflex action of the more active remedies with which it is exhibited it greatly retards their action.

I do not intend to discuss the vexed question of the use of purgatives in intestinal obstruction and enteritis, but linseed oil seems to be the halfway house between using an active

purgative and withholding one altogether, and so has entered into very common use as "an agent which, even if it does no good, can do no harm." But I am inclined to deny it this harmless quality.

Physiologically saliva and gastric juice have no action on oils and fats in the food beyond softening and dissolving the cell walls which contain them. They are not absorbed in the stomach, but are mainly taken up by the lacteals after being acted on by the biliary and pancreatic secretions, a slow process, and one which can only cope with small quantities of oil, the surplus or undigested portion passing on and acting as a purgative. We make use of this property when we exhibit Ol. Terebinthinæ in a large quantity of oil in cases of intestinal parasites, though at the same time some of the turpentine which has been absorbed is, doubtless, excreted in the colon.

That the digestion and absorption of oil is a slow process in health is demonstrated by the fact that the pancreatic juice—the digestive juice of oils—is not secreted in any quantity until a considerable time after food has been ingested. And if the process is a slow one in health, where only a small quantity of oil or fat is to be digested, and that in a state of very fine division or emulsification, how much more difficult must the process be in gastro-intestinal diseases where often after a primary irritation, peristalsis becomes almost suspended, and the oil has been exhibited in large quantity and without being emulsified in the least degree.

When remedies which are soluble in oil are exhibited, it is surely fair to argue that they share the same fate and are only absorbed at the same time. Tinctures, spirits, and substances insoluble or only temporarily emulsified in oil are no doubt in part absorbed from the stomach, being taken up by the blood vessels and rapidly gaining access to the blood current and thence to the nervous system, "a consummation greatly to be desired" where pain is so acute. But absorption of these agents from the stomach is greatly hindered by having oil added to them, or if not, then the whole system of exhibiting oils and fats as demulcents in irritant poisoning is wrong, but any agent which "sheathes and protects mucous membranes" as demulcents are said to do, must of necessity interfere with their contact with and absorption by the mucous membranes. It must be a matter of common observation that the stomach and intestines of animals which have been largely dosed with oleaginous fluids contain *post-mortem* an enormous quantity of unabsorbed fluid, a symptom which

does not occur in nearly the same degree when oil has been withheld. The interference of the contact with the gastric mucous membrane of the active carminatives employed in tympanitis, colic, etc., prevents their full valuable reflex action on the intestines, an action which in tympanitis is essential to the well-being of the case in hand.

Although hardly bearing on the point at issue, I think all will admit the dirtiness of drenching an obstinate or violent horse with oil.

In conclusion, I will sum up the objections to the use of oil particularly in cases which will probably require more than a single dose, and, at the same time, suggest that when a purgative is deemed necessary, no half-and-half measures be adopted, but an active one employed.

1. It is too slow and uncertain in its action to be given as a purgative in gastro-intestinal derangements.
2. It interferes with the absorption of the more active remedies even when given as a vehicle in smaller quantities.
3. By retarding absorption of active remedies, it entails loss of valuable time and waste of medicine.
4. By its demulcent properties, it diminishes the reflex action of carminatives, on which their utility greatly depends.
5. It is almost if not quite as nauseating as an aloetic purgative.
6. It is uncleanly to exhibit.

THE RELATIONS OF MEDICAL AND VETERINARY SCIENCE AS ILLUSTRATED BY TUBERCULOSIS, AND ITS PREVENTION.

An Introductory Address delivered at the Glasgow Veterinary College on Friday, 21st October, 1898.

BY JOHN LINDSAY STEVEN, M.D.

Physician and Lecturer on Clinical Medicine, Glasgow Royal Infirmary, etc.

My first duty is to give expression to my sense of the high honour conferred upon me by the request of your Principal to deliver the opening address of the present session of the Glasgow Veterinary College. The first thought that naturally occurs to me, a medical man, occupying the position I do to-day is that now, both from the scientific and the practical point of view, there exists the very closest bond of union between the profession of medicine and that of veterinary

surgery. From the time of the Alexandrine anatomists three centuries before Christ till the revival of anatomy by Mundinus of Bologna in the thirteenth century, practitioners of medicine were dependent for their anatomical knowledge upon dissections of the lower animals. Even the great Galen's anatomy was learned from the carcases of monkeys "and other animals of which he mentions many kinds, from an elephant down to mice, birds, and fishes." If we turn to physiology the same thing is evident. Galen studied the functions of the nervous system by the extensive use of vivisections which enabled him to distinguish sensory, motor, and mixed nerve trunks. And so on throughout the ages. The epoch-making work of Harvey and of John Hunter would have been impossible without the experimental observation of the lower animals. It is unnecessary to pursue this aspect of our subject further. I have said enough to show that the art of the physician and surgeon owes much to the study of vital phenomena in the lower animals—nay, without such study progress in the science and practice of medicine would throughout long centuries have been impossible. But if we physicians on the scientific side of our art owe much to the study of the lower animals, it must now be admitted that on the practical and preventive side the debt is still greater. With the dawn of a scientific pathology under the impetus of the work of Morgagni and Bichat in the last century and the beginning of the present, it soon became apparent that not only could our knowledge of anatomy and physiology be rendered more perfect by a study of the vital phenomena of the lower animals, but that in addition an immense new field for the study of disease itself was opened up. It was now beginning to be understood that many morbid processes were fundamentally the same in all essential details, whether occurring in the bodies of men or in the lower animals. An additional interest was at once imparted to the study of animal life, especially in its morbid manifestations. The need for dissection of animals for the perfecting of human anatomy no longer existed; but the need of study of the lower animals for the elucidation of pathological processes occurring in man became more and more pressing. And that such studies in the first half of the present century have been productive of the greatest results, not only to medicine but to science in general, I need not remind you. I need only mention one or two of these. Our knowledge of inflammation, that great fundamental morbid process, has been rendered exact in a manner that scarcely

could have been dreamed of at the beginning of the present century. The true nature and cause of tuberculosis have been placed beyond all doubt ; and many difficulties with regard to the nature of infectious disease have been dispelled.

Having thus made it clear that on the scientific and theoretical side there is the closest possible bond between human and veterinary medicine, I have now briefly to point out that on the practical and administrative side, the bond is even closer. I am not familiar with the history of the development of veterinary science, but I suppose that just as the surgeon of to-day is the natural successor of the barber of the past, so the veterinary surgeon has sprung from the farrier. The craftsman in the process of evolution became a professional man, and now in all civilised countries we have enrolled in the list of learned professions that of the great science and art of veterinary medicine. I have said a little while ago that the bond between human medicine and veterinary medicine is now firmer and closer than ever. We have just seen the reason of this. Whereas in bygone days the scientific study of the lower animals was confined to members of the medical profession, and that not so much on account of the animals themselves as on account of the importance such studies bore to the medical man's peculiar work, now we have two great professions, one labouring to elucidate human, the other animal pathology, each with a great aim and object in its own peculiar work, and yet each rendering mutual help the one to the other in the great battle against disease, which is the common foe alike of man and beast.

In what follows of this address I mean to discuss the pathology and prevention of tuberculosis as illustrating the bond of union of which I have just been speaking.

A short historical note of our knowledge of the nature of tuberculosis, as leading up to our present practice with regard to it, may not be altogether out of place here. There is perhaps no disease concerning which our knowledge, both of the causation and the mode of development, has been placed on a surer footing than tuberculosis, and that within the last 20 or 30 years. It might now almost be said that we have learnt all that we can learn about it, and that all our efforts must in the future be directed towards remedial measures. In the form of phthisis pulmonalis we know that tuberculosis has been well known from ancient times, but it is only during the last hundred years that we have come to recognise tuberculosis as an independent morbid condition

apart from any connection it may have with consumption of the lungs, which is merely one of its local manifestations. In the latter part of the last century the anatomical lesion of tubercle, the little nodule or lump to which the name tubercle has been applied, was well known and described by many authors, though chiefly in connection with consumption. The modern pathology of tuberculosis, however, was inaugurated in the first quarter of the present century by the researches of Bayle and Laennec. The important point in Laennec's teaching was the inculcation of the doctrine of the specificity of tubercle; he thought the cause was something specific, and probably beyond our reach. "We are authorised to conclude," writes Laennec, "that tubercles are not the product of inflammation of any one of the constituent textures of the lungs. On the contrary, a multitude of facts prove that the development of the tubercles is a result of a general condition of the body; that it takes place without previous inflammation, and that when inflammation coincides with tuberculous affection, it is most frequently posterior to it in its origin."

After this period attempts were made to show that there were specific elements in the structure of tubercle—a specific corpuscle, or a special process of caseation or necrosis. Virchow, in 1847, showed that neither of these structural conditions could be regarded as being specifically confined to tuberculosis. In 1865 the period of the experimental inoculation of tubercle began with the researches of Villemin, who proved that by inoculating tubercular matter into animals you could produce the disease. Late in the seventies Cohnheim, in spite of much and able teaching to the contrary, propounded his belief in the infectious and infective nature of tubercle, and even ventured to predict that a specific and probably bacterial virus would yet be discovered. In 1881 Koch announced his discovery of the bacillus of tubercle.

All that I have said in this short historical note shows that anatomy and histology alone are insufficient for the explanation of tuberculosis. So long as endeavours were made to find a specific corpuscle or a special tubercular material or structure, the efforts of men to find the specific element of tubercle failed. When the idea of a virus was driven home by Cohnheim, and a very short time afterwards its demonstration effected by Koch, the secret of tubercle was exposed. Without the bacillus we can have no tuberculosis; and without infection neither men nor animals can suffer from tubercular disease. Heredity alone cannot account for the development of tuberculosis; however much an individual

may be predisposed without infection there can be no tuberculosis. Such, then, is the present doctrine with regard to the etiology of tuberculosis, and it may, perhaps, be said that this doctrine is more universally accepted than any other in the whole range of pathological science.

We come now to the discussion of the important subject of the prevention of tuberculosis. I will not speak of the cure, for as yet we know of no cure for this dire disease. It is fortunately true that Nature often effects a cure, a happy circumstance of which both clinical physicians and pathologists soon become convinced. But it cannot be said of any drug in the pharmacopœia that it is a cure for tuberculosis. Hopes were raised that with the discovery of Koch's tuberculin the panacea had been found, but, alas! these were soon dissipated. If we are to stamp out tuberculosis, it must be by prevention—by prevention of infection and by destruction of the virus. In no other way can we hope for success, and it is in this work that the veterinary surgeon and the physician must join all their forces in an offensive and a defensive alliance, fighting together to the bitter end.

In order to clear the way for the discussion of preventive measures, we must first of all call to mind the paths by which the animal organism receives the infection of tubercle. Experiment in the laboratory and wounds received in the *post-mortem* room have abundantly proved that tubercle may be inoculated, and that by such inoculation first a local and afterwards a general infection may be produced. I will not speak for our domestic animals, but at this point I desire to remind you that there is no part of the human body which may not be the site of tubercular disease. It is manifest, however, that infection by inoculation is a rare and very special mode for the extension of tuberculosis. As regards both men and animals, it is clear that the most common path of entrance for the tubercular poison is by the mouth. The poison may be swallowed with the food, or inhaled with the air, and thus primary foci of the disease may be set up within the chest or the abdomen.

We are now in a position to speak of the methods by which the spread of tuberculosis may best be prevented, and I shall first, with all deference, consider the matter from the point of view of the veterinary surgeon. In dealing with tuberculosis the veterinary surgeon has, it appears to me, two grand ends or aims in view, the second springing naturally from the first. Primarily, it is his special work to free our domestic animals from this fatal and pestilent plague, and, secondly, in the

very accomplishment of this great work to assist the medical man to banish the pest from human society. I do not desire, being in this part of my inquiry an outsider without special knowledge, to attach any great weight or importance to the views I advance, but perhaps you will be indulgent enough to listen to one or two suggestions which, as a physician and a pathologist, occur to me.

I conceive that the first preventive measure, as regards cattle, is the early, the very early, recognition of the disease. I am not competent, in an assembly such as this, to speak of the clinical diagnosis of tubercular disease in domestic animals, but I would urge that, in order to be of service as a preventive measure, we should be able to make the diagnosis even before the clinical signs are prominent and unmistakeable. Fortunately, we are now independent of clinical signs for the establishment of the diagnosis, because by the appropriate use of Koch's tuberculin we have a certain and reliable test for the presence of tubercular disease, even in its earliest and least manifest forms. Professor Nocard, of Alfort, a scientific veterinarian whose name must be well known to this audience, writes on the subject as follows:—After pointing out that in many cases of latent or deep-seated tuberculosis the diagnosis could never become a certainty, but must remain a suspicion, he says, "It is not the same to-day, for we have in tuberculin a certain means of making the diagnosis of tuberculosis, even when the lesions are quite recent and very limited." ("The Animal Tuberculosis," 1895, p. 47.) Every veterinary surgeon, then, has the means at his disposal of verifying his suspicions. Let us inquire how this means may be applied as a preventive measure. Well, then, let me give you an example. Not very long ago the Corporation of Glasgow appointed a veterinary surgeon to be one of the members of its sanitary staff, a very evident indication of the belief of the Corporation in the valuable help which veterinary science can give in the maintenance of the public health. I am informed that under proper authority this officer may "enter any byre or cowshed within the city, or wherever situated if the milk produced therein is being sent for sale within the city, and may inspect and examine any cow kept therein for the supply of milk, in order to determine whether such cow suffers from any disease which might render the use of the said milk dangerous or injurious to health." (Glasgow Police (Amendment) Act, 1890, section 24.) I have just read to you the words of the Act, and it may be admitted that at least one important issue is thereby raised. Has the

sanitary inspector, for the purpose of his diagnosis, the right to use tuberculin? The Sanitary Authority of Glasgow believes that he has, and I desire to say very emphatically that I am in thorough agreement with our health officers on this important point. No doubt the owner of the cow might object to this test being applied, but, in my opinion, he might just as well object to the use of the stethoscope. Dr. A. K. Chalmers stated to the recent Royal Commission his belief that under the Glasgow Police (Amendment) Act, 1890, the local authority had power to enforce the use of tuberculin, although he admitted that this as yet had not been done without the consent of the owner, and that no legal opinion had been given upon the point. The sooner the local authority has full power to use tuberculin as a mode of inspection, the better for the public health.

Perhaps at this point it would be right to refer briefly to views now held as to the danger to the community from the use as food of the flesh and milk of tubercular cattle. This was made the subject of inquiry by the Royal Commission on Tuberculosis which sat in 1895. Basing their opinion chiefly on the experimental work of Dr. Sydney Martin, the members of this Commission formulated their finding on the danger from consumption of the meat of tubercular cattle as follows: "We are prepared to believe with him that if sufficient discrimination and care were exercised in taking meat from tuberculous cattle, a great deal of meat from them might without danger be consumed by the community." While admitting the reasonableness of this opinion we must also remember the criticism of Dr. J. B. Russell on this matter. In his work on the prevention of tuberculosis he writes: "It is all very well to demonstrate that fragments of meat might be safely salvaged from tuberculous carcases and restored to the food resources of the community. Nothing will satisfy the butcher but passing these carcases on into the market, whole or in normal segments, so that these shall fetch the same price as corresponding portions of a healthy carcase. He objects to the source of this meat being known. To ask him to 'exercise sufficient discrimination and care in taking meat from tuberculous cattle' is not business from his point of view, nor, in fact, from any point of view. This must be done by officials if it is done at all" (page 42). This might be taken as the argument in support of the opinion of those who believe that the flesh of tubercular animals should under no circumstances be used as food, and in spite of the manifest difficulties surrounding any attempt to enforce such

a view, I must say that it commends itself to me as the safest practice for the maintenance of the public health.

In the report issued this year of the second Royal Commission appointed to inquire into administrative procedures for controlling danger to man through the use of such food, it is recommended that in certain circumstances, such as the presence of miliary tuberculosis, or tubercular disease of the pleura and peritoneum, etc., the whole carcase should be destroyed and that in certain other circumstances where the disease is very limited only the tubercular portions shall be destroyed. This may be taken as a decided advance in the direction of the view of Dr. Russell.

With regard to the danger arising from milk, all authorities are agreed that when tubercular disease affects the udder and the mamma the milk is in its raw state virulently dangerous as an article of food. Under such circumstances the commissioners recommend that "local authorities should be given powers somewhat similar to those of sections 24–27 of the Glasgow Police (Amendment) Act, with power to slaughter such cows subject to compensation under the conditions named in the report." (Art. 43.) We may take this recommendation as a compliment to the Glasgow Sanitary Authorities. I shall conclude my remarks upon this aspect of the subject by quoting the emphatic opinion of the previous Royal Commission on Tuberculosis. "No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter."

From all these considerations, then, it appears to me to be clearly proved that the first and most important means of prevention from the veterinary side is the widespread use of the tuberculin test. In this way alone can the disease be recognised in its earliest stages, and when this has been done subsequent procedures, such as the slaughter or isolation of diseased animals or the stoppage of infected milk supplies, can be efficiently carried out.

But the use of tuberculin has not only a diagnostic, and as regards human tubercle, a preventive value, it also possesses a great value as a means of improving the health of our herds of cattle. I cannot in this place enter upon a discussion of the praiseworthy efforts of the Danish Government, with the scientific help of Professor Bang, of the Veterinary College of Copenhagen, to eliminate bovine tuberculosis, without resorting to the tremendously expensive, and as experience has shown, impracticable measure of slaughtering all the infected cattle. Briefly stated, the

method consists in testing the whole herd at regular intervals by tuberculin, and vigorously separating the animals that react from those that do not. In this way the sound and the diseased are kept apart, and it has been found that with the precautions adopted, the sound section has been increasing in numbers, while the tubercular has been diminishing. It may thus be hoped that by some such plan, for the details of which I must refer you to the Commissioners' Report, bovine tuberculosis may gradually be eliminated to the great benefit both of man and beast.

Another important preventive from the veterinary standpoint is the proper sanitation of byres and cowsheds. On this point the recommendations of the Commission are so important that I may venture to quote them. The requirements are the following :—

1. An impervious floor.
2. A sufficient water supply for flushing.
3. Proper drainage.
4. A depôt for the manure at a sufficient distance from the byres.
5. A minimum cubic contents as regards such districts of from 600 to 800 feet for each adult beast, varying according to the average weight of the animals.
6. A minimum floor space of 50 feet to each adult beast.
7. Sufficient light and ventilation.

Were such recommendations carried out, there can be no doubt that we would soon have a very notable reduction in the number of cases of bovine tuberculosis.

The great question of compensation arises very directly from the preventive measures we have just been considering. On this important point I do not feel myself capable of saying very much, more especially as I find that the recent Commission is almost equally divided on the subject, four members disapproving and three approving of the principle of compensation to owners of confiscated carcases. We may take it for granted, then, that the question is not an easy one to settle, when a body so capable of judging the matter on its merits has failed to agree. On the whole, however, I would be inclined to agree with the view of the majority in this matter. The presence of tuberculosis in cattle may be looked upon as an ordinary trade risk, and it seems to me that with the power we now possess of detecting by means of tuberculin, tuberculosis in its earliest stages, farmers, graziers, and butchers, the men directly and commercially concerned, have in their own hands the means of reducing

this trade risk to a minimum. If the recommendations of the Commission for the elimination of bovine tuberculosis were adopted throughout Great Britain and Ireland, I cannot help thinking that in course of time, and possibly a very short time, the question of compensation would disappear.

On the question of compensation for the slaughter of milk cows suffering from tuberculosis of the udder, the finding of the Commission as regards compensation is somewhat different. The terms of the report are as follows:—"We are therefore of opinion that when, under the certificate of a veterinary surgeon, the sale of milk from a given cow is prohibited, the local authority should slaughter the same, and if on *post-mortem* examination it appears that the cow was not so affected, the local authority should pay compensation to the extent of the full value of the cow immediately before slaughter. If, on the other hand, the animal be found to have been so suffering, the carcase should be sold by the authority, and the owner thereof should receive the proceeds of the sale." I think, on the whole, that there cannot be much exception taken to this opinion.

I am afraid that I have left but little time for dealing with the second part of my thesis, viz., the prevention of tuberculosis from the point of view of the medical profession. I may, however, direct your attention to a few points having a direct bearing upon the prevention of the disease in human subjects. In the course of this address it has been made very clear that in certain aspects of the matter the medical man and the veterinary surgeon must go hand-in-hand; indeed, the modern medical officer of health, as the Corporation of Glasgow by its action has shown, cannot do without the help of a veterinary colleague. There are, however, certain points connected with the prevention of human tuberculosis which appertain specially to the medical man, and I will venture to say that if the difficulties of the veterinary surgeon are great in his special work, the difficulties of the medical man are greater.

As I have already indicated I shall not speak of cures—of cures in the sense of specific remedies. We know of none. We know enough about the nature of the disease to relieve symptoms and to assist Nature, but of specifics we know nothing.

I shall now say a few words on notification, isolation, milk, and popular instruction as elements in the medical attempt to prevent the spread of human tuberculosis. And in the first place I may remark that in the efforts of its sanitary authori-

ties to deal with the prevention of tuberculosis, Glasgow may claim to be in the forefront of the battle. In proof of this I need only recall to your memories the famous tuberculous meat trial conducted at the instance of the Glasgow local authority in 1889. Following upon this in December, 1891, the Medico-Chirurgical Society of Glasgow held a discussion on tuberculosis as an infectious disease. I had the honour on the invitation of the Council of the Society of opening this discussion, as a result of which a memorial was presented to the Corporation, praying them to take the matter of the infectious nature of tuberculosis into their careful consideration, with a view to the prevention of the spread of the infection in the community. The outcome of this discussion was the publication in 1896 by Dr. J. B. Russell of his famous report on the whole subject. This report may be said to cover the whole ground with regard to the administrative powers of the local authority in the matter. So much for what Glasgow has done: let us now consider briefly some of the more important details.

If tuberculosis is an infectious disease, why should it not, like other infectious maladies, be notified? From the academic standpoint there is no reason why it should not, but from the administrative point of view there is the greatest difficulty. This difficulty mainly arises from the extraordinarily widely spread prevalence of the disease among mankind, and from the variety and almost universal distribution of tubercular lesions in the body. There is almost no portion of the body which may not be affected. Remember that it is not only phthisis pulmonalis, perhaps the most common and infectious variety of all, that would require to be notified, but every possible form of the disease from a scrofulous neck gland to a tubercular joint or a tubercular peritonitis. Now, is the country prepared to face this? If it were, no doubt a great step in advance would have been taken. In the form of compulsory notification it may at once be admitted that we are dealing with an impracticable, nay, an impossible measure, even with regard to consumption. We are yet a long way from compulsory notification; and voluntary notification is hardly to be hoped for, valuable as it would be from a preparatory point of view. Such voluntary notification would depend largely for its success on two things—(1) a sufficient knowledge on the part of the public of the nature and mode of prevention of tuberculosis, and (2) an enlightened and patriotic public spirit. But can we even hope at present, at least, or in the near future, for this partial

notification. The difficulties in the way of its practical adoption are very great, one of the greatest being the fact that amongst a very large section of the general public the presence of tubercular disease is regarded as a stigma on the family. Regarded from this standpoint the notification of tuberculosis is on a quite different footing from that of the ordinary infectious fevers. To catch an infectious fever is an accident which may befall the healthiest and most robust, and to notify such an affection is the most obvious manner of preventing the same accident happening to others. But to notify tuberculosis is to publish to all whom it may concern what many regard as a blot on the family escutcheon. Even in the way of voluntary notification the difficulties are almost insurmountable, especially when we remember that there would even be a chance of the directly or indirectly tubercular section of the community outvoting the sound section if the matter ever came to a practical issue.

If it were possible to isolate cases of tuberculosis in the same way as was done with leprosy in the Middle Ages, I am sure that in a short time a notable diminution in the amount of the disease would take place. But again we have to ask the question, is it practicable? I am afraid not. We would have the same difficulties to face as in the case of compulsory notification and more. I am very far from advocating that the terribly severe and rigid forms of segregation applied to leprosy should in any way be enforced with reference to tuberculosis, because I think that with our present knowledge of the nature and cause of the disease it is unnecessary. The very loathsomeness of leprosy was one of the elements which assisted in the stamping out of the disease. The disease as a rule repelled men, and compelled them to adopt a stern, even a cruel, mode of repression. It is different with tuberculosis. Many of its most infective forms are associated with a beauty of person, a brightness of disposition, and a vigour of intellect which attract rather than repel, and excite compassion and sympathy rather than abhorrence and fear. Here, then, we have a strong force working against any attempt at enforced isolation, and fortunately such isolation is not necessary.

This leads me to offer a very few words on the hospital treatment of tuberculosis, especially in the form of phthisis pulmonalis. It is essentially for the advancing and advanced cases of phthisis pulmonalis that hospitals are required, and it is exactly these cases which are not admitted, or admitted

under protest to general hospitals. Even consumption hospitals exercise a certain selection in the admission of patients, and hence it arises that the hopeless cases which are the most dangerous to the community, are left unprovided for. One aspect of the hospital treatment of phthisis, then, resolves itself into this, that provision should be made for the care of the hopeless case. This would be one of the noblest works of human benevolence, and one which should certainly receive the encouragement and material help of the local authority.

Regarding the hospital treatment of consumption from the point of view of the cure of the disease, I think there is danger of erroneous views gaining ground. I do not believe that it is possible to cure consumption in such a way as to influence in the slightest degree the prevalence of the disease in the community by the establishment of benevolent private hospitals, and I do not think that either the State or the municipality could grapple with the question of hospitals for the cure of phthisis. Consumption is curable often in its earlier stages, but this is the stage when the consumptive should be advised to avoid the hospital and live in the fresh air. In dealing with the rich in such circumstances, we do not send them to our nursing homes or paying hospitals, we send them to the fresh, pure and mild air. Neither should we, in dealing with the poor, send them to swell the already crowded wards of our general or our special infirmaries. The hospital treatment of tuberculosis resolves itself into the provision of two classes of institution: (1) The Sanatorium, where the incipient case can go to enjoy rest and fresh air; and (2) The Home of Peace, where the advanced or hopeless case can go to pass his weary days in some degree of comfort. The attempt to establish hospitals ostensibly for the cure of consumption, either by special drugs or other form of treatment, is, in my opinion, a mistake, as tending to lead to a feeling of false security on the part of the public.

On the question of a pure milk supply, after what I have already said, it is unnecessary for me to dwell. Here it is that the veterinary surgeon and the medical man can most effectively join their forces. An experience, extending over many years, in the Hospital for Sick Children here, has convinced me that a very large proportion of the tubercular disease of children is due to milk. Let us have it pure.

To one other preventive method I can only refer in a word. It is the education of the public in the methods of preventing the spread of this dire disease. This is a measure which can be, and has already been, undertaken by our own and many

other sanitary authorities, and I believe that good results will soon follow. The distribution of leaflets, the offer to disinfect houses, and the instruction of competent sanitary inspectors, are all methods which in the end must tell. Above all it must be driven home to the people that it is the discharge from tubercular disease alone that is infectious. If the spit of the consumptive and the matter from the tubercular sore be carefully collected and efficiently destroyed by appropriate disinfectants before being thrown out, human tuberculosis will not spread from the sick to the healthy.

I have thus endeavoured, gentlemen, to address you on a subject of common interest to the veterinary and the medical professions, and I have to close by again expressing my profound conviction that, if tuberculosis is to be stamped out at all, it will only be so by the earnest and co-operative action of the veterinary and the medical practitioner.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A MEETING of Council was held on Monday, 24th October, to confirm the minutes of the previous meeting.

Mr. Dollar opposed the confirmation of the minutes, as he was of opinion that the alteration of bye-law 67 was unfair.

The minutes were confirmed, Mr. Dollar being the only dissentient.

PROFESSOR W. OWEN WILLIAMS has given notice of the following motion, to be brought forward at the Christmas meeting:—

> That powers be obtained by the Council of the R.C.V.S. to grant an additional degree to M.'s R.C.V.S., to be known as that of "Veterinary Officer of Health" degree.
>
> That this degree be granted to M.'s R.C.V.S. only, and after passing an examination in the following subjects: The Working of the various Acts of Parliament which refer to matters appertaining to Veterinary Hygiene; The recognition of Contagious and Infectious Diseases of the Lower Animals, and particularly those Transmissible to Man; Meat Inspection; Sanitation; The Chemical and Microscopical Examination of Waters, Soils, Atmospheres, Secretions, Excretions, Discharges, Fluids and Solids of the Body; also of Plants and other matters, which may purposely or inadvertently be introduced into the animal body.

Registration Committee.

THE Committee recommended to the Council, "That it be considered unprofessional on the part of a member of the Royal College of Veterinary Surgeons to hold the appoint-

ment of Farrier, Farrier-corporal, Farrier-sergeant, or Farrier-sergeant-major in any regiment, whether regular, yeomanry, or volunteers."

On the motion of Mr. Trigger, seconded by Mr. Mulvey, the report containing the recommendation was adopted.

Cases.

PARTURIENT ASCITES IN A COW.

BY ROBERT GIBBS, M.R.C.V.S., TAUNTON.

A LITTLE while since I was requested by a farmer in the neighbourhood to see a cow for him which, according to his statement, had, since calving, been constantly "blasted," viz., hoven, and would I take a trocar with me, as he considered an operation would be necessary. An examination of the animal in question, a cross-bred six-year-old, showed her most enormously distended, in fact it would not have been possible for her to pass through an ordinary cowshed doorway; she was at grass, and on removal to a shed, an opening was made in the flank, and immediately the stillette was withdrawn a milky-coloured fluid escaped with great force for a distance of a foot perpendicularly; the fluid, for the space of an hour and a-half, at the rate of a pint a minute continued to flow, and like the celebrated stream of the poet, threatened to "flow on for ever." Another opening was made in a more dependent part, and for five hours it still at the same extraordinary quantity escaped; it was on calculation considered that at least 27 gallons were evacuated. She was, of course, in a very prostrated condition. A stimulant was administered; the after treatment consisted in the exhibition of quinine combined with aromatics and vegetable diuretics. She made a good recovery.

I thought the case might be of interest to your younger readers from its unique quantity. My father and self have practised in this valley for 70 years, and no such record appears in the history of unusual cases occurring in our practice.

AMPUTATION OF A PORTION OF THE VAGINA FOLLOWED BY STENOSIS.

BY J. W. IRVING, ESQ. M.R.C.V.S., BRISBANE, QUEENSLAND, AUSTRALIA.

THE following case appears to me to present certain features of interest, especially to those whose practices are chiefly or largely concerned with dogs.

Clinical History.—On the 3rd of May of the present year, a large bitch of the Great Dane breed was brought into hospital with eversion of the vagina. This condition had been produced by some person forcing a large Newfoundland dog to withdraw his penis before the completion of the copulatory act.

The everted organ was thoroughly cleansed with luke-warm water, and then lubricated with carbolic oil. Not much difficulty was experienced in replacing the vagina, as inflammation and consequent swelling were not markedly developed. Two tape sutures were inserted into the lips of the vulva to prevent re-eversion.

On the 5th of May the sutures broke out (owing to frequent licking) and once more the vagina was everted. The treatment resorted to in the first instance was repeated; but in this case the vagina was not so readily returned, from the fact that eversion had taken place six hours previously.

Silver-wire sutures were now inserted instead of tape, and these were retained for twenty-nine days, during which time irrigation with dilute Condy's fluid was performed twice daily. Everything seemed to be going on very nicely until, on July 1st, eversion again occurred.

Taking the recurrences into account, as well as the greatly swollen condition of the vagina, I decided to amputate the projecting portion. This was done by means of the ecraseur.

The animal appeared to do very well under antiseptic treatment for about 10 days. But at this time emaciation slowly developed, although there was no falling off of appetite.

Digital examination revealed some stenosis, but not at this time of any marked degree.

About a fortnight after this I was informed that the bitch had given birth to one very small pup, and from this I concluded that the stenosis could not be very great. I did not, however, see her at this time.

The animal gradually becoming more and more emaciated, it was decided, on September 10th, to destroy her.

Post-mortem Examination.—The *post-mortem* revealed the following state of affairs: The uterus contained a considerable quantity of dark, blood-stained fluid, in which was solid matter, having a somewhat fibrinous appearance, possibly derived from the uterine mucosa.

The vagina was markedly stenosed; the stenosis, however, did not implicate the meatus urinarius. Strange to relate, the urinary bladder was enormously distended with urine,

having a size fully equal to that of an average bullock; this could not be accounted for by any obstruction, as the urethra was in no way occluded or pressed upon, and, as stated above, the meatus was perfectly potent and not at all concerned in the vaginal stenosis.

The case altogether presents several points difficult of explanation, and should be interesting if only on account of the length of time the animal lived after stenosis had been established. It would be a nice point to decide whether the fluid contained in the uterus was of the nature of menstrual fluid or had some other origin.

Army Veterinary Department.

London Gazette, September 30th, 1898.

Extract from despatch from G. O. Commanding Egypt and Cairo, September 16th, 1898, to Secretary of State for War:—"I also desire to acknowledge the services of Vet.-Captain L. J. Blenkinsop and the junior officers of the various departments."

Extract from despatch, Omdurman, September 5th, from Major-General Sir H. Kitchener to Lieut.-General Sir F. Grenfell, G.C.M.G., etc., Commanding in Egypt:—"The names of the following officers, etc., have been brought to my notice for good service:—Vet.-Captains G. R. Griffith and L. J. Blenkinsop; Vet.-Captain F. B. Drage (Royal Horse Guards); Vet.-Lieut. T. E. W. Lewis, W. D. Smith, and W. E. Russell."

October 4th, 1898.

Army Veterinary Department. — Vet.-Major G. J. R, Rayment, F.R.C.V.S., to be Vet.-Lieut. Colonel *vice* J. Kettle, retired. Dated August 4th, 1898.

The undermentioned Vet.-Captains to be Vet.-Majors. Dated October 5th, 1898:—R. H. Ringe, R. Pringle.

Editorial.

THE OPENING OF THE COLLEGES.

THE four veterinary colleges of the country have once more opened their doors for their winter studies, and already the

young aspirants for scientific fame are hard at work. It is most gratifying to us all to have had the distinguished presence of the President of the Board of Agriculture, and it is doubly gratifying to know that he appreciates our professional efforts so highly, and acknowledges his indebtedness to our zeal and energy. In the midst of many discouragements, and in the face of much public apathy and ingratitude, it is pleasant to hear Mr. Long say, "I congratulate you most heartily as one whom his Parliamentary position is closely connected with the veterinary profession, owes a great deal to that profession, and is largely dependent upon it for loyal and efficient service, in order that the work he is responsible for may be effectively done." In another part of one of his speeches, Mr. Long utters words which must fire the very dullest student, and make him eager for an opportunity of distinguishing himself: "A man who realises that on his shoulders rest the reputation and the responsibility of his great profession, who realises the splendid opportunities that it offers to him for good and effective work, is, then, one who *has* great opportunities for work, which he should make full use of, and who, depend upon it, when the end of his days comes, will feel that he has not laboured in vain."

The key-note of all the addresses has been tuberculosis and the best means of dealing with that scourge. There is no doubt, as Mr. Long says, that in the minds of our leaders on scientific questions, this matter bulks very largely indeed. There was a day—and not so very long ago—when complete ignorance prevailed as to the nature of this disease, and it was thought to be hopeless and incurable. Fortunately that ignorance has been largely dispelled, and the scientific spirit of the nation and of the world has found in tuberculosis merely a powerful and subtle foe who, though possessed of deadly weapons, can yet be disarmed and overthrown if attacked in the right way. Dr. T. L. Steven, whose thoughtful and interesting address at the opening of the Glasgow Veterinary College my readers will find in another column, discourses with delightful amplitude on this theme. It is, again, most gratifying to us to find a growing recognition on the part of our medical brethren, as witnessed by Mr. Long's speech at Edinburgh, and Dr. Steven's address, and if tuberculosis, with all its havoc, has produced this closer union between the veterinary and the medical branches of science, it will not have been an unmixed evil. Full justice is done by Dr. Steven to our efforts towards the discovery

and eradication of this disease, and a most friendly hand is held out to us by him as representing the medical profession. Of course, this is just as it should be, if you like, but then there are many things which are far from being what they should be. Mr. Long remembers the time when our medical brethren were inclined to decry our methods and doubt our virtues. "I hope," he says, "that that time is past for ever; and if it has gone it must be largely, if not entirely, due to the fact that during the last 30 years or so the veterinary profession has succeeded, by unfailing industry, by making the fullest use of the great educational opportunities which have been afforded to it, in elevating itself, and in occupying for itself the position which it ought to fill, and which I believe it does fill, with credit to itself and advantage to the community." Nothing could be more laudatory, or more encouraging, both to teachers and students.

Dr. Steven devotes a good deal of his discourse to the important matter of meat inspection, in which he is glad to see the combination of the medical and the veterinary element. I hope to return to this matter next month, when I have collected information from the principal European colleges. But I must take every opportunity of urging upon veterinary surgeons the extreme importance of fitting themselves for such duties, and of insisting upon a recognition of their just claims in this respect. Everything seems favourable at present: there is a fair field, let us show that we are the best men and go in and win.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A QUARTERLY meeting of the council was held at 10, Red Lion Square, Bloomsbury, on Tuesday, October 4, under the presidency of Mr. A. W. Mason. Present:—Messrs. Abson, Allen, Barrett, Carter, Cope, Dewar, Duck, Dollar, Edgar, Fraser, Hartley, Lawson, Locke, Mulvey, McFadyean, McCall, Pritchard, Penberthy, Shave, Simpson, Trigger, Wartnaby, Wragg, W. O. Williams, and Mr. Hill (*Secretary*).

The SECRETARY read the notice convening the meeting.

On the motion of Mr. LOCKE, seconded by Mr. FRASER, the minutes of the previous meeting were taken as read and confirmed.

The SECRETARY stated that he had received letters of apology from Vet.-Col. Lambert, Mr. Beddard, Mr. Bower, and Mr. Elphick regretting their inability to attend the meeting.

Presentations.

The SECRETARY announced the following presentations :

To the Library.—Five interesting photographs of the foaling of a mule, from Vet.-Captain N. D. Gunn (Assistant Inspector General, Simla) ; Annual Report of the C.V.D. of Bengal, by Vet.-Captain Raymond ; *Archives de Parasitologie paraisant tous les trois mois sous la direction de Raphaël Blanchard ; The Veterinarian* for three months ; *The Veterinary Journal* for three months ; *The Journal of Comparative Pathology and Therapeutics* ; *The Veterinary Record*, 1897-8, Vol. 10.

To the Museum.—Native Shoeing Instruments from the Assistant Inspector General, C.V.D., Meerut, N.W.P.

On the motion of Mr. WRAGG, seconded by Mr. LAWSON, a hearty vote of thanks was accorded to the donors.

Correspondence.

The SECRETARY read the following letter, addressed to himself, from Mr. Thatcher, the solicitor, with regard to bye-law 67 :—

July 14th, 1898.

Dear Sir,—In accordance with instructions, I beg to report on what I consider the interpretation to be placed on bye-law 67. The bye-law is as follows : "A student who is rejected at his first, second, and third examinations shall not be eligible for re-examination unless he gives satisfactory proof of having attended the lectures and general instruction of the school at which he was educated during the interval between such rejection and the ensuing examination." There is no comma after the word "educated," nor is any special period of time indicated beyond the interval between two examinations, nor is there any bye-law prohibiting a student from changing his school. Having regard to the reading of the bye-law, I am of opinion that it is open to the interpretation that a student can leave one school and study at another between his rejection and re-examination, but I am bound to admit I arrive at this conclusion with a considerable amount of hesitation, and I would suggest that the bye-law be altered so as to put the question beyond doubt.

The SECRETARY read the following letter from the solicitor with regard to Registration, State Aid Grant, dated 3rd August, 1898 :—

Dear Mr. Hill,—The Government have lately arranged to allow the Law Society an annual grant of £2,500 towards their expenses in connection with the discipline of their members, and prosecution of unqualified persons. I see that the medical council on the 20th July, last, through some member of the house, asked for a similar grant, but the Chancellor of the Exchequer said that inasmuch as solicitors paid a large annual duty to the Government they had some right to expect aid, but that did not apply to professions which did not contribute. Although the answer to the medical council would apply to the members of the veterinary profession as well, still, I think the matter is so important, that the attention of the council should be directed to it, as it is possible that if joint action were taken by the medical council and ourselves, something might be done ; even if they only gave us £100 or £200 a year, it would be a great help. Perhaps you will kindly submit this letter to the president, and if he thinks it of sufficient importance bring it before the next council meeting.

Mr. DOLLAR : I move :—

> That the president be empowered, with the assistance of the solicitor and secretary, to enter into correspondence with the General Medical Council with a view to co-operating with that body in obtaining a grant of money such as that suggested.

Mr. LAWSON seconded the motion, which was agreed to.

The SECRETARY read a letter from the Veterinary Board of Victoria (3, Queen Street, Melbourne) dated 1st August, 1898, enclosing a petition from the Board, together with the Veterinary Surgeons Act, Regulations of the

Veterinary Board of Victoria, the Veterinary List of Victoria, 1898, and the prospectus of the Melbourne Veterinary College.

The PRESIDENT: I think Mr. Hill can read you a small portion of the petition which will give you the gist of it.

The SECRETARY: Clause 7 gives you the point of the petition. It says, "That therefore it is the desire of your petitioners that you will carefully, and if possible, favourably consider the request implied in the above statements, namely, that the graduates of the Melbourne Veterinary College after having obtained the diploma granted by the Veterinary Board of Victoria may be allowed to be examined by the Royal College of Veterinary Surgeons with the object of obtaining the diploma of the R.C.V.S."

Professor EDGAR: I beg to move that the letter be acknowledged, and that it be referred to the Examination Committee for consideration, and that a draft letter be drawn up in answer to it.

Mr. ABSON seconded the motion, which was agreed to.

Finance Committee.

Mr. TRIGGER read the report of the Finance Committee, dated October 4th, which stated that the vouchers and receipts for payments during the preceding quarter had been examined and found correct, and recommended that the liabilities should be discharged and cheques drawn for the amounts. A letter from Messrs. Fraser, Stoddart, and Ballinghall, *re* the Walley Memorial Fund, together with the draft declaration of trust, had been carefully considered, and the committee recommended that the council should accept it, subject to its being submitted to the solicitor for his opinion and approval. He said: This is the first time we have had so satisfactory a balance as £615, but I wish the council to bear in mind that we owe £500 for stock which we had to sell to tide over bad times. I beg to move the adoption of the report.

Mr. LAWSON seconded the motion, which was agreed to.

Registration Committee.

Mr. SIMPSON, as chairman, read the report of the Registration Committee, which met on the 3rd October. It appeared that correspondence had been read in which questions were asked by several members as to what advertising could be allowed, and the secretary was instructed to reply that the committee declined to express an opinion and referred the applicants to bye-law 113. The applications of Mr. W. T. G. Hodgins and Mr. A. Roberts for restoration to the register appearing to be in due order it was recommended that they should be acceded to on payment of the usual fee. The solicitor reported that in the case against J. Emsley, a non-member, for using the words "veterinary shoeing forge," he had been prosecuted, convicted, and fined £1 and 14s. costs. In the case of James Wheelan (trading as Wheelan Brothers) he had been prosecuted, convicted, and fined 5s. and £5 costs, or two calendar months' imprisonment in default. He was allowed time for payment, but not having done so, had been sent to prison. The committee had considered various cases which comprised complaints against non-members for using the word "veterinary," and against members for advertising, and had directed cautionary measures should be sent in several instances, and in two cases the solicitor was instructed to ascertain if there were sufficient ground for prosecution. The committee recommended that it be considered unprofessional on the part of a member of the college to hold the appointment of farrier, farrier-corporal, farrier-sergeant, and farrier-sergeant-major in any regiment whether regulars, yeomanry, or volunteer. It was resolved that a cautionary notice in the case of advertising or other complaints against members be drawn up by a sub-committee to consist of the president, the chairman, the secretary, and the solicitor. The committee

considered the case of William Pettigrew, who had been convicted on the 12th April last before the Sheriff-Substitute of Lanark on a charge of attempted fraud against an insurance company and fined £25. The committee reported that they considered the case came within Section VI. of the Veterinary Surgeons' Act of 1881, but having regard to the circumstances laid before them they recommended that in the event of the council deciding to strike off Mr. Pettigrew's name, an application to restore it after reasonable time, coupled with evidence of good behaviour in the meantime, should be favourably considered. The committee further reported that Mr. Alexander Wynd had applied for registration as a colonial practitioner, and that they had considered the application and the evidence in support. The difference in the regulations of the two colleges were reported as follows:—The Royal College requires an educational qualification as defined in bye-law 52, and the schedule in the register relating thereto; while the Ontario Veterinary College, on the other hand, required only a common school education, certified by the teacher under whom the person studied, and failing that the candidate must pass an examination in reading, writing, and spelling. The professional qualification was also different. The Royal College required four sessions and four professional examinations, while the Ontario College required only two sessions and two examinations. The committee were of opinion that Mr. Wynd's diploma was not sufficient to entitle him to registration, having regard to the facts and the enactments of the Veterinary Surgeons' Act, 1881, section xiii., sub-section 3.

On the motion of Mr. TRIGGER, seconded by Mr. MULVEY, the report was adopted.

Mr. SIMPSON then moved formally that the name of William Pettigrew be struck off the register.

Mr. WRAGG seconded the motion, which, on its being certified that two-thirds of the council were present, was carried.

Mr. SIMPSON moved, and Mr. WRAGG seconded, the following motion—

> That this council, having considered the application of Mr. Alexander Wynd, a a graduate of the Ontario Veterinary College, for registration as a colonial practitioner, it is resolved 'That the application be refused on the ground that his diploma does not furnish a sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of veterinary surgery.'

Professor EDGAR suggested that that was a very drastic reason when the Canadian College did recognise that it was a sufficient guarantee. He thought the council was unnecessarily passing strictures on that college.

The SOLICITOR (Mr. Thatcher) said it was referred to in the Act.

Mr. SIMPSON said that it was the opinion of the council, formed long ago, that the students of the Ontario Veterinary College were not sufficiently educated to be qualified, and for that reason the council had hitherto refused to recognise that college.

Mr. DOLLAR asked if there were any objection or legal obstacle in the way of adding to the resolution the words, "in the United Kingdom."

The SOLICITOR said the case would go before the Privy Council, and he did not wish the resolution to be burdened in any way, or that anything which they put into the resolution should be used against the council. In drafting the resolution he had very carefully followed the wording of sub-section 4 of section 13.

The resolution was agreed to.

A formal resolution was then passed that the names of Messrs. Hodgins and Roberts should be restored to the register on payment of the usual fee, and also another resolution endorsing the reasons given in the report for refusing to recognise Mr. Wynd as a colonial practitioner.

Examination Committee.

Mr. MULVEY, as chairman, read the report of the Examination Committee which met on October 3rd. It appeared that a letter had been received from Mr. P. H. Williams, asking if the Welsh language was considered modern. The secretary was instructed to reply that he should consult any examining body enumerated in the list, and if they granted a qualifying certificate, it would be brought before the council. A letter was read from Mr. Close in regard to his certificate, as was also a letter from the solicitor on the subject, and the secretary was instructed to inform Mr. Close that the committee could not see its way to entertain his request. All the certificates were accepted with the exception of that of Mr. Jürgensen, which was incomplete. The council had carefully considered the reports of the May examination in Scotland, and recommended: (1) that Mr. Rutherford be asked to obtain a more suitable room for the written examination in Glasgow; (2) that books be provided for the examination instead of loose sheets, and that the matter be left in the hands of the chairman and secretary; (3) that not less than three members of the council be asked to attend the written examinations in England and Scotland by rotation.

On the motion of Professor PRITCHARD, seconded by Mr. FRASER, the report was adopted.

Steel Memorial Committee.

The SECRETARY read the report of the Steel Memorial Committee, which recommended that Dr. Fleming and Principal Williams should be the recipients of the medals.

Mr. SIMPSON moved the adoption of the report.

The motion was agreed to.

Report of the Court of Examiners.

The SECRETARY read the report of the Court of Examiners, from which it appeared that thirty-eight students had been admitted as members of the profession.

On the motion of Mr. SIMPSON, seconded by the PRESIDENT, a vote of thanks was passed to the principals and professors of the respective schools in which the examinations had been held for the help they had rendered.

Dates of Fellowship and Professional Examination.

Professor DEWAR moved that the written examination be held on Friday, the 9th December, which, after some discussion, was agreed to. It was also agreed that the oral examination should commence in London on the Monday following, viz., December 12th. Saturday, the 10th December, was fixed for the fellowship examination.

Secretary to the Scottish Section of the Board of Examiners.

On the motion of Mr. WRAGG, seconded by Professor PRITCHARD, Mr. Rutherford was appointed secretary to the Scottish Section of the Board of Examiners.

Obituary.

The SECRETARY read the obituary list.

Notice of Motion by Professor W. O. Williams.

Professor WILLIAMS gave notice that at the next quarterly meeting of council he would move:

That powers be obtained by the R.C.V.S. to grant an additional degree to members of the R.C.V.S., and to be known as that of Veterinary Officer of Health degree; that this degree be granted to members of the R.C.V.S. only, and after passing an examination in the following subjects:—The working of the various Acts of Parliament referring to matters appertaining to Veterinary Hygiene; Recognition of Contagious Infectious Diseases of the Lower Animals, and particularly those Transmissible to Man; Meat Inspection; Sanitation; Chemical and Microscopical Examination of Waters, Soils, Atmospheres, Secretions, Excretions, Discharges, Fluids and Solids of the Body; also of Plants and other matters which may purposely or inadvertently be introduced into the animal body.

Standing Orders.

Mr. DOLLAR: I wish to ask the council to direct the parliamentary committee to draw up for the general direction and enlightenment of the council standing orders for the management of its business. Every other body with which I am acquainted has such standing orders for the management of debate. They would be a great convenience not only to new members of the profession, who enter the council for the first time, and who have to learn what our very uncertain procedure is by painful experience, but also to those gentlemen who occupy the chair, and would prevent any difference of ruling on their part.

Mr. SIMPSON: I beg to second that. It has for many years occurred to me that it is very necessary. The chairman for the time being is put in an uncomfortable position because he has to rule absolutely what in his opinion is the correct method of procedure. If we have these standing orders for our guidance, I think that the business of the committees, and also the council, short as it has been to-day, will be got through in a much shorter time.

The PRESIDENT: I think this is one of the best things I have heard since I have been a member of the council.

The resolution was carried unanimously.

The PRESIDENT: That terminates the quarterly meeting, and now we form ourselves into a special meeting.

Special Meeting.

The council then resolved itself into a special meeting for the purpose of considering certain proposed alterations of regulations and bye-laws of which notice had been given. Mr. A. W. Mason occupied the chair, and the following members were present:—Messrs. Abson, Allen, Barrett, Cope, Dewar, Dollar, Duck, Fraser, Hartley, Lawson, Locke, McFadyean, McCall, Mulvey, Penberthy, Pritchard, Shave, Simpson, Trigger, Wartnaby, W. O. Williams, and Wragg. Mr. Geo. Thatcher (solicitor) and Mr. A. W. Hill (secretary) were also present.

The minutes of the special meeting of July 1st were confirmed.

Mr. WARTNABY moved with regard to class C examination (4 years)—"That the examination of students in materia medica, pharmacy, etc., be made a practical one." He said under the three years' course this examination was a practical one, and as I believe that a very great improvement took place with the change in the education of the students. Why it was left out of the four-years' course I am at a loss to understand. You will no doubt agree with me that it is our duty in these examinations to see that practice keeps pace with theory, and that every veterinary surgeon ought to be able to write a prescription and dispense his medicines neatly and efficiently. At present, under the synopsis of materia medica, etc., there is no mention made of dispensing, and this, I think, precludes the examiners from touching upon this subject. Teachers naturally object to a student being examined on a subject outside the synopsis. I think that this practical examination ought to be added to the table, and that facilities should be afforded the examiners to carry it out. I

sincerely hope that it is not at all distasteful to the teachers. I have very good reasons for knowing that the examiners themselves desire it, and it is also desired by a very large number of leading men in the profession.

Mr. TRIGGER seconded the motion. He said: I do not see myself any difficulty in the matter, even as our regulations stand now. I think there is a general idea that the materia medica and pharmacy examination should be to some extent practical. I believe the idea was that by having three students in the room at the same time, very much as is done in surgery in the final, it could be done. One examiner could be taking a student in theory whilst the other examiners could be superintending the dispensing of medicines. I believe it will be only carrying out the intention of the council when the regulations were framed.

Mr. MULVEY, in supporting the resolution, said: I must point out that had the instructions given by the council at the time the four-years' course was brought into operation, been carried out, there would be no necessity for this resolution. In the discussion which took place, it was stated that dispensing of medicine would come under the head of pharmacy. It was also moved and carried that three students should be taken conjointly.

The PRESIDENT: I take it the examiners have not been carrying out our instructions.

Mr. MULVEY: My own opinion is that they have not been definitely instructed.

Professor MCFADYEAN: Mr. Wartnaby said he hoped the proposal which he had just laid before us would not be distasteful to those connected with the schools. Any member who showed that any proposal which he makes here is demanded by the interest of the profession need not care whether it is to the mind of the schools or not. I am happy to say, however, so far as relates to the London Veterinary College, that there is no opposition to the students being tested practically in pharmacy. I have no reason to believe that there would be any opposition from the other schools. But I do not know that it is necessary to alter our regulations to permit the students being tested in pharmacy. Without in the least underrating the importance of prescribing and compounding medicines, what I should like to ask is, is it a more important subject than physiology, or anatomy, or pathology? and if not, where does the necessity arise for extending the examination? I think we ought to know what is to be the effect of this. If it really means that the students are to have a longer examination in the written on materia medica than they are to have on pathology and hygiene, then it is a very serious proposal; it will dislocate the whole of the C examination and add very considerably to the expense of conducting the examination. Some expressions have been used about examining three students conjointly. I do not quite understand what that means. These students are now examined conjointly; one is being examined in hygiene, one in pathology, and one in materia medica. Is this a suggestion that the materia medica examiners are to have three students simultaneously before them? If that is the proposal I ask again, Is materia medica so much more important a subject than any of the other subjects that it must have an extended time for the examination? I submit there is no occasion for a longer period to test the knowledge of a student in materia medica, including practical pharmacy, than in the case of the other subjects. All I think we ought to do, if we think there is any justification for the belief that the students are not being sufficiently tested as regards their knowledge of practical pharmacy, is to call the attention of our examiners to the fact, and to say that we expect them within the specified time to test the knowledge of the students on practical pharmacy. Prescriptions were also mentioned. I do not say it is not right to test a student's knowledge of writing prescriptions in the materia medica

examination, but I think that one should not exact too much knowledge from a student at this stage of his duties regarding the writing of prescriptions. It you do that it will simply result in the students having crammed into their heads a series of prescriptions which they will learn like parrots. Students ought to be tested in regard to their ability to prescribe in the final (D) examination; and if they are not so tested, then I think again that we ought to call the attention of the examiners to the fact.

Professor McCALL: To a very considerable extent I agree with what Professor McFadyean says in regard to the practical examination in materia medica. It seems very much like putting the cart before the horse to ask the student to prescribe for a disease when he has never learned anything with regard to that disease. I think this practical examination should certainly be brought about, but brought about in the fourth year, not in the third. If any alteration is going to be made, it should be added to the subject of veterinary medicine, that is to say, prescribing and practical pharmacy, so that when our graduates do leave us we shall not give any person the chance of saying that qualified men in the four years' course, after they leave the college, are unable to make up a neat compound, or powder, or in many other ways are not so intimately acquainted as they ought to be with their profession.

Professor EDGAR: There seems to me some little confusion with regard to the subject. There is a very great distinction between the subject of materia medica and pharmacy. I remember very distinctly, when the change was made from the three to the four years' system, arguing that there would be a great disadvantage in referring the subject of materia medica to the three years' course. Materia medica relates wholly and only to the subjects of which medicines are composed, and I would ask Mr. Wartnaby how he thinks it is possible to make a subject like that practical? If you mean practical materia medica—that is what you mean; but practical pharmacy is a very different thing. If you ask these men to worry out practical materia medica in the third year they have to go over the whole of their chemistry again. I hold it is absolutely impossible without a great extension of time to make this examination practical in materia medica. I believe it is easy, nay essential, that there should be some practical examination in pharmacy, *i.e.*, the dispensing of the materials of the materia medica. That I believe is to a certain extent carried out now, and I think Professor McFadyean supported that idea, that there was every facility offered in the London, and doubtless in other schools, for carrying out the practical part of it, like making up balls, drenches, and things of that kind, which every student ought to be able to make. But it strikes me that if we carry this proposition of Mr. Wartnaby's it will put us in a tremendous hole.

Mr. WARTNABY: I should like to ask my friend Professor Edgar whether he is not rather splitting straws in this objection of his. I do not say materia medica. I am dealing with all examinations which come under materia medica, pharmacy, etc. If it relates more to pharmacy I submit to Professor Edgar it might be very difficult for him to find out where materia medica begins and pharmacy ends.

Professor EDGAR: Turn to a book on the subject.

Mr. WARTNABY: There is writing a prescription, for instance. Is that materia medica or pharmacy? It has been suggested that the examiners could conduct their examination on pharmacy at the present time in this practical way. But I have been led to believe that it is impossible for them to do this because they have not the necessary appliances and conveniences. That is what I am given to understand. An examiner cannot examine a student practically in pharmacy—an examination which I submit very strongly every student should have—unless he has the necessary conveniences.

Professor McFADYEAN: I think it is very undesirable that we should meet Mr. Wartnaby's motion by a direct negative, because I am sure we all feel it is desirable there should be no opportunity for anybody to say that our examination in pharmacy is defective. I would therefore like to move an amendment that might be acceptable even to Mr. Wartnaby, to the effect: "That this council calls the attention of the examiners in materia medica to the importance of a knowledge of practical pharmacy, and requests them to give due attention to that notice."

Professor PENBERTHY seconded the amendment.

Professor McFADYEAN: If it is a fact that the examiners have not felt that they had adequate opportunities in conducting the examination to test a student's knowledge of materia medica practically, I can only say they have never made any complaint in London, and that we are quite willing to allow them the whole resources of our institution in order to test the students practically if they choose to. Our pharmacy is well stocked with drugs, mortars, pestles, and so on, and the examinations need not be defective on that point.

Mr. SIMPSON: I would rather appeal to Mr. Wartnaby to ask the permission of the council to allow him to withdraw this at the present moment, in order that it may be amended. I take it that the rules do not allow of the amendment of a suspended proposition of this kind, but in its present form one is bound to vote against it, inasmuch as it speaks of a practical examination in materia medica that, as has been pointed out, can hardly be carried out. A practical examination in pharmacy, of course, is quite possible. It occurs to me that if Mr. Wartnaby had the opportunity of thinking this matter over a little longer, he would be able to put before us something which would be really more acceptable, and which I believe everybody could vote upon. There is a desire that practical pharmacy should be introduced, but our bye-law or our regulation in the C examination says that the examination for materia medica, pharmacy, therapeutics, and toxicology, shall occupy for the written examination two hours, and for the oral only 15 minutes. It would be absolutely impossible for the examiner to examine the student orally at a table, and set him to work for a sufficient time to test his knowledge from practical work of that kind; and for that reason I suggest to Mr. Wartnaby whether under all the circumstances—because I am most desirous of not voting against a practical examination, but, as I pointed out, in its present form one is bound to vote against it—he can see his way to applying to the council for leave to withdraw.

Mr. WARTNABY: If you will allow me to withdraw my resolution I shall be very pleased to do so, on the suggestion which is made by Professor McFadyean to instruct the examiners to carry this out in a practical way.

Mr. FRASER: Professor McFadyean's suggestion is a very good one, and Mr. Wartnaby withdrawing his motion is a practical course, but if the examiners have not time to carry these suggestions out, what is the advantage of it?

The PRESIDENT: I think that is as far as we can go to-day.

Professor McFADYEAN: It is to be distinctly understood that my amendment implies that the present time is sufficient for that as for other subjects.

Mr. FRASER: It cannot be done in a quarter-of-an-hour.

Professor PENBERTHY: Is it feasible, sir, for Mr. Wartnaby to withdraw on any condition, or must he withdraw it *in toto?*

The PRESIDENT: I was going to ask him to withdraw and then ask you to accept Professor McFadyean's amendment.

Professor PENBERTHY: If he cannot do so, I should suggest to him that he allow Professor McFadyean's amendment to be put and carried.

The PRESIDENT: He cannot do it; this is a bye-law.

Professor MCFADYEAN: My amendment does not involve any alteration of the bye-law.

The PRESIDENT: Mr. Wartnaby's proposition is the alteration of a bye-law, and yours came up on his suggestion.

Professor MCFADYEAN: If Mr. Wartnaby moves an alteration of a bye-law, how does it come up then?

The PRESIDENT: Notice has been given.

Professor MCFADYEAN: Then what is the obstacle in putting it now?

The PRESIDENT: He does not want it.

Mr. BARRETT: May I ask if you rule that an amendment to a motion to alter a bye-law cannot be moved?

The PRESIDENT: You must either accept it or reject it.

Mr. BARRETT: I see Mr. Trigger laughing. I am quite aware of my friend, Mr. Trigger's, ruling, but Professor Penberthy in the chair last year, I believe, ruled just the contrary.

The PRESIDENT: If you want an amendment, I wish your amendment to be placed on the board. You must either accept this or reject this.

Mr. WARTNABY: If you will allow me, sir, I am quite willing to withdraw this resolution, seeing that this discussion will bring about what I desire.

Mr. TRIGGER (who seconded the motion): I will give my permission on the same ground, that I believe the discussion to-day will have the desired result.

The motion was accordingly withdrawn.

Prof. DEWAR then moved, in connection with bye-law 52, "That the examination of the Educational Institute of Scotland, No. 50 in the first schedule, shall satisfy the requirements of the bye-law if held on the present standard, by whatsoever name the examination may be called." He read bye-law 52, which states that "Students who enter the veterinary schools shall, prior to their first professional examination by the Royal College of Veterinary Surgeons, produce a certificate entitling the holder to be registered as a medical student on June 30th, 1896." He said: these regulations of ours were passed at a time, perhaps, when the council was in a somewhat electric condition, and everything was not taken into consideration that might have been in cooler moments, and with time to think about them. The necessity for some alteration of this bye-law has arisen owing to the action of the General Medical Council. The General Medical Council, at their meeting on the 29th November, 1897, resolved: "That the following examinations, conducted in the United Kingdom, are regarded as of a lower standard than that which should be required;" that is, the examination of the Royal College of Physicians and Surgeons of Ireland, the College of Preceptors, the preliminary medical examination of the College of Preceptors, and the preliminary medical examination of the Educational Institute of Scotland. A considerable number of members of the council have been under the impression that this examination of the Educational Institute of Scotland would be withdrawn, and that there would be no examination after the 1st January, 1899. I omitted to say that the resolution of the General Medical Council was to the effect that these examinations should not be accepted after the first day of January, 1899. I am informed that the Educational Institute of Scotland have no intention of withdrawing the examination, but simply mean to increase the standard of their examinations, so that it will satisfy the requirements of the General Medical Council. And not only do they mean to increase it after the 1st of January, 1899, but they have been increasing it even at this recent examination. This is the preliminary examination for veterinary students in Scotland. You can easily see that if this examination is raised to a higher standard, it will still be called the preliminary examination for medical students. Supposing

they retain their examination on the present standard, it will no longer be a preliminary medical examination. On the other hand, the examination of the College of Preceptors, which is the examination taken by the great majority of students, I believe, in England, has not this disadvantage. It has no name connecting it with the General Medical Council, such as "preliminary medical examination." There is one examination of the College of Preceptors called the preliminary medical examination for medical students, but the ordinary examination has not this qualification. I have it on the authority of the secretary of the College of Preceptors that they do not mean to alter their examination, although they have to go in for another examination to satisfy the requirements of the General Medical Council. They mean to continue this examination for students other than medical students after January 1st, 1899, and then they will simply have to hold another examination of a higher standard for the purpose of students requiring to be registered as medical students. Of course, all that we want is that students, in whatever part of the kingdom they may be situated, shall all, as far as possible, be on an equality. The difficulty in Scotland will be that we have no examination mentioned in the schedule which will be of the same standard as the examination was when our bye-law was passed on the 30th June, 1896. The examination will be very considerably behind the standard. The Educational Institute of Scotland is willing to give any guarantee this council may desire that the examinations shall be continued on the same footing, or to allow the council to obtain guarantees in any way they think fit that the examination will still be the same. When the bye-law was passed and this schedule adopted, we went on as if we expected that these examinations would be continued indefinitely, but a number of them have already been withdrawn, and we might go on until the schedule became extinct.

Professor J. McCALL: I rise to support Professor Dewar's alteration, and my reason for doing so is that at the present moment the students in Scotland—and I believe I am quite in order in saying at the last examination—sit under a higher standard for the preliminary examination to enter the veterinary profession than they did previously. It has begun already, according to the head of the institute, and the consequence is that at the present moment Scotch students are competing at an unfair advantage with students who are proposing entering the London Veterinary College. My reason for saying so is this, that when it was arranged by the council that they would accept the certificates of these various bodies it was understood that the examinations held under the College of Preceptors and under the auspices of the Educational Institute of Scotland were identical, or as nearly identical as possible. Now we are in the position that our students in Scotland will require to pass a preliminary examination which has been raised 25 per cent.—I understand that is the figure. The average has been raised 25 per cent., and consequently our students have to sit and pass an examination which is 25 per cent. higher than the examination which it is asked they should pass in London. If in the first instance this examination in Scotland was held by the council to be sufficient, and if now in Scotland they have raised this examination, surely the council do not want to follow in the footsteps of the medical profession and ask our students to whistle every time the Medical Council calls. We are simply following them if we do not alter the examination standard. Next year they may raise us another 25 per cent.—we do not know—and it is manifestly unfair that in Scotland we should be subjected to this idea of raising the standard continuously, when in England similar conditions are not in evidence. It is a very simple matter for the council to remedy that. What we ask is simply what is just and equitable. I do not for one moment wish that the

standard of the educational examination should be diminished or reduced in any way. I simply say, let us have equity, and in order to do so, if we can get a satisfactory reference from the Scottish Educational Department that they will see the standard of the examination set for veterinary students is equivalent to what is asked under our charter according to bye-law 52, we shall not be giving any school an advantage over another.

Mr. J. A. W. DOLLAR: Professor McCall has gone into the question at considerable length, and has dealt with the hardship which the Scotch schools are suffering from the effect, as he says, of the examination having been raised 25 per cent. Putting on one side altogether the question of the accuracy of those figures—and I should think it is rather difficult to assess the raising to that degree—I may point out that the Scotch colleges have a very easy remedy in the event of their no longer approving of this examination. From Professor McCall's remarks it might be inferred that there is only one examination in Scotland. I beg you to refer to page 78 of the Register of the R.C.V.S., where you will see that there are at least 52 examinations at which these students may present themselves, and therefore if this examination has been illegally raised 25 per cent., a very easy method of remedying that injustice is to accept one or more of the other 51 certificates which it is in the power of Professor McCall's and other Scotch schools to accept. But in order to obtain a proper perspective of this question it is desirable to go back a little. I may remind you that in 1896 this question was very fully thrashed out, and the profession expressed, I think, with no uncertain voice the conviction that we should accept the standard then laid down by the General Medical Council, and especially they laid down the dictum that we should not do as many people then urged, viz., institute an examination of our own. I need scarcely point out to you the dangers of this idea of having an independent examination. It means opening the door to all manner of irregularities. It means that practically this college, unless it exercises a continuous vigilance and continually scrutinises every certificate that comes before it, cannot, and cannot even under those circumstances hope always to maintain an equitable standard; whereas, by adhering to the standard which we adopted in 1896—viz., that of the General Medical Council—we have a standard which we may look on as a fixed and absolute quantity. It has been suggested by Professor Dewar that the examination could be continued without detriment. In the first place, I think the very fact of Professor Dewar bringing forward this motion shows that he himself recognises that if the examination which our students are now going up for in Scotland were continued without being connected with the General Medical Council, it would no longer conform to the regulations laid down in our Register—that is to say, it would no longer be the examination of the General Medical Council as is required by bye-law 52. It would no longer entitle the holder to be registered as a medical student on June 30th, 1896. Therefore Professor Dewar comes before you and says, "We want the veterinary profession to institute an examination of its own." Now, as a council I think we may, perhaps, be excused taking up a somewhat *non possumus* attitude. I, as a member of council, speaking solely for myself, look on this question in this way. The council has laid down fifty-two certificates, any of which will entitle an intending candidate to enter for his first professional examination. By an accident, over which this council and this college have no control whatever, one of those certificates happens to have become illegal, or rather it will by 1899 no longer be issued.

Professor PENBERTHY: No longer be accepted by the General Medical Council.

Professor DEWAR: You are speaking neither for nor against.

Mr. DOLLAR: That is a matter of indifference. You have referred to this one certificate and I am speaking of this one certificate. I am addressing myself to the subject which you brought before the meeting. It is through no fault of ours that this has happened, and there are the very gravest reasons why we should continue in the path which we adopted in 1896, at the time when the question received so much attention, because the thing which the supporters of the undivided certificates laid especial weight upon was that we should not institute an examination of our own, because we could not properly control it. If we do institute this examination you must remember that it will depend for its conduct on two persons, Mr. Morrison, the president, and Dr. Mackay, the secretary of the Educational Institute of Scotland. I am informed that since that time Dr. Morrison has died, but Dr. Mackay, the secretary of the Educational Institute, remains. Nevertheless, it may be interesting to this council to know what was the opinion of these two gentlemen in 1896. It throws a most lurid light on the proceedings in that year, and is most ominous for the probable results which would follow if we handed over the direction of this examination to this institute. Dr. Morrison, on the 22nd December, 1895, wrote to Professor McCall as follows:—

Dear Professor McCall,—Referring to our conversation this forenoon, I have no hesitation in giving it as my very decided opinion, based on a somewhat lengthened experience, that to require veterinary students to pass the whole preliminary examination at one time is educationally a mistake. It stands, I think, to reason that a young man will derive more benefit from concentrating his attention on one or two subjects at one time, than by dissipating his efforts on all the subjects required at the examination. I have consulted many of my professional brethren, and their unanimous verdict is in favour of my contention.—I am, yours very truly,

THOMAS MORRISON, LL.D., Principal.

Now we have the opinion of Alexander Mackay, LL.D., F.E.I.S.:—

20th May, 1896.

Dear Sir,—Referring to our conversation of yesterday, I have no hesitation in saying that, in my opinion, it would not only be unreasonable, but educationally a mistake, to require veterinary students to pass all the necessary subjects of the preliminary examination at one time.

Mr. BARRETT: I rise to a point of order. Are we dealing with the question of a divided examination or one examination? I am sorry to interrupt my friend, but it seems to me his remarks are totally irrelevant to the question before us. I ask your ruling on the point, sir?

The PRESIDENT: You *are* wandering, Mr. Dollar, but I thought you might be——

Mr. DOLLAR: Brought back to the fold? I will endeavour, sir, to bow to your ruling.

It was a great advance on the previous examination to require them to pass in all subjects on the level of medical students——

Mr. BARRETT: I rise to a point of order. I ask you to rule specifically on that point. Is Mr. Dollar in order in referring to a divided certificate when the subject is not before us?

Mr. DOLLAR: I am not referring to a divided certificate.

The PRESIDENT: Mr. Dollar is referring to these examinations of the Institute of Scotland.

Mr. BARRETT: Do you rule he is in order, sir?

The PRESIDENT: Yes; but I have asked him not to take up so much time.

Mr. DOLLAR: I have very little more to say—

It was a great advance on the previous examinations to require them to pass in all subjects on the level of medical students, and to require them now to pass all at the same time, without at least some years of warning of such a change, would, in my opinion, be a serious hardship. From my knowledge of the past and the present, I can say that, taking one or two subjects at a time, they have very creditably come up to the new requirements. But to require those—and they seem to be the majority—who have for years been engaged in other employments, to pass at once in all the subjects, would be unreasonable. I know that many of the class referred to become good students. They are, as a rule, led to adopt the new profession by an intellectual impulse springing from extensive and thoughtful reading. But they have forgotten the technicalities that bulk so largely in formal examinations, and while they can pass well in one or two subjects at a time, and in the end attain to a good level of scholarship, the effort to pass all at once would at best mean the lowest pass-marks, but more probably the exclusion from the profession of many capable of taking a distinguished place in its ranks. Yours, very truly, ALEX. MACKAY, LL.D., F.E.I.S.

I ask whether it is the intention of this council first to run dead in the face of the decision which it came to in 1896, to disregard the decision of the profession in those days, to institute an examination of its own, and to hand over the conduct of the examination to gentlemen who have emitted opinions such as those I have read to you. I think we should be false both to our position as members of the council and false to our profession were we to take any such step. I think that such a question should not, certainly, be brought before us without some general expression of opinion from the whole profession, and some decision on which we may well base our action. Under any circumstances, sir, I should strongly oppose the continuation of this examination, as has been proposed, unless we were provided with the most ample guarantees. Under no circumstances do I think that a matter of this importance should pass into legislation without there having been ample opportunities for discussion, and therefore on the present occasion I oppose the passage of the motion.

Professor EDGAR: I should like to ask the council to contrast, before voting on this important question, the exalted proposition which came from one of the professors of the Scotch schools for graduates in veterinary science, and this proposition, emanating from another principal of another Scotch school. The one looks forward to the day, which perhaps is not far distant, when a veterinary surgeon shall see opening up to him a wider scope, a broader field for the development of his energies, and it ought to be stamped with the movement of "Forward" on it, whatever difficulties there may be in promoting it. But Professor Williams, looking probably to the difficulties which are before us, sees the narrowing in of the scope for veterinary work and rightly grasps the prospect of the veterinary surgeon being on an equality with the medical man in being able to compete for remunerative offices open to such educated men. Now we have, sir, the fear and trembling of our friend here who is to handicap the men at the very outset of their career by again bringing this millstone of preliminary education and hanging it round their neck and for ever preventing their taking the position publicly which the public will be perfectly willing to grant to veterinary graduates, provided they are equal in every sense to medical men. Are we again going to revert to the condition from which we have emancipated ourselves, and be willing to set a lower standard, which this is the opening of the door again to do, whatever you may say about it? It is endeavouring to squeeze in, just at the end of the day when we are getting tired and weary and all looking at our watches, a thing which you will regret afterwards. Why, sir, if veterinary surgeons are unable to pass a standard equal to that of medical men they are perfectly unable to cope with the problems which medical men will have lying before them in their after-life. I see the folly of the action

then taken, when two years ago we were able to make our boast that our students were equal in preliminary education to medical men. The medical men have only gone one little step further—hardly equal to an advanced board school scholar; they have demanded that their students should have these elementary preliminary certificates knocked out, and very justly and wisely too. If we followed them it would be a wise thing. I always felt ashamed that "on the 30th June, 1896," was added to the bye-law which I had the pleasure of framing. I was absent at the time or I should have strongly opposed the amendment. Already, then, the medical profession were discussing the elimination of these preliminary education certificates of an elementary character, and were considering that they were unworthy of the members of the medical profession. Now we want to pose as equal to the members of the medical profession, and show we are able to compete with them in the appointments open to both, and yet we are to be but half-educated. I warn you that if this motion is accepted it will be the first step in a backward direction, and it is bound to re-open the whole question. It cannot be settled without, for if you once admit such an alteration of our bye-laws as that, and open the door to a step in a weak direction, we are bound to go on. There are men in this council who will not submit to its being brought in in a way like this. It must re-open the whole question, and probably will involve a further advance than a good many have anticipated.

Mr. BARRETT: It was not my intention to speak on this question to-day, and therefore I come before you somewhat unprepared, but as a member of this council and a member of this profession, I cannot sit quiet after having listened to what I regard as the most intemperate speech of Professor Edgar. I have listened to him on two or three occasions, but I have never heard him make a temperate speech. His language is always of the fullest, of the most descriptive, and the most arrogant character, and he holds himself up, in my opinion, as the only man who is capable of guarding the portals of the veterinary profession. Any man who attempts to tackle the question of education and is opposed to Professor Edgar, is always regarded as retrogressive. Who is this gentleman who is capable of teaching us all that we ourselves know? Who is he that he aspires to teach us on all matters which deal with elementary education? He has no special qualification, and I for one, object to his form of language.

The PRESIDENT: This is hardly to the point. We are not discussing Professor Edgar, we are discussing the motion.

Mr. BARRETT: I am merely complaining of the manner in which Professor Edgar is dealing with this subject.

The PRESIDENT: He was not personal.

Mr. BARRETT: If you rule that my remarks are out of order, I will abide by your decision, sir. He says Professor Dewar is desirous of handicapping men who go to Scotland. I do not see evidence of anything of the kind, nor does Professor Dewar ask you to approve of an education whereby men may be subject to a lower educational examination. If he did that I should oppose him tooth and nail, because I am quite of opinion that our educational standard must be maintained. What Professor Dewar says is this: the educational examination in Scotland was formerly sufficient for the General Medical Council. The General Medical Council has raised this standard, and he asks us to accept an examination which was formerly sufficient for the General Medical Council, and is now a sufficient compliance with bye-law 52. What I want to point out to you is this, that whether we accept his amendment or not, we are still bound by bye-law 52, and any alteration which the General Medical Council may have made in their examinations does not affect us. Therefore, it will probably be sufficient for the students who desire to be examined at the Educational Institute of Scotland to come forward with a

certificate from that body to say that they have passed an examination which was equivalent to that required by the General Medical Council on the 30th June, 1896; and if they do that, whatever the examination shall be called, in my opinion we are obliged to admit them. Then Professor Edgar chooses to ridicule two eminent Scotch professors who, I believe, are dead. They, truly, have expressed an opinion contrary to us, but are they not entitled to the respect of the council? Professor Morrison is dead, I believe.

Professor EDGAR: I never mentioned Professor Morrison.

Professor DEWAR: It was Mr. Dollar who mentioned him.

Mr. BARRETT: Professor Edgar was referring to a speech delivered by Mr. Dollar, and Mr. Dollar in a very lengthy manner, and to my mind in a totally irrelevant way, spoke of Messrs. Morrison and Mackay.

Mr. DOLLAR: Which I had a perfect right to do.

Mr. BARRETT: I agree, because the chairman ruled that you were in order.

Mr. DOLLAR: Then I do not see the object of your remark.

Mr. BARRETT: The gentleman who has spoken has entirely missed the question. We are not dealing now with what the General Medical Council should have done. The Scotch professors are very rightly asking that students may be entered here on certificates which satisfy bye-law 52. Therefore I do not see that Professor Dewar's motion is requisite. If it is pushed I shall support him, because I am of opinion that he is correct. Why do gentlemen open up this question, which was discussed in 1896? I am quite aware that the profession said emphatically that the students should pass the subjects at one examination and at one time, but we are not dealing with that question now. Professor Dewar has not asked you to accept his students by part certificates. What he says is that "the examinations which our students passed were sufficient last year, but they will not be sufficient after the 1st of January, 1899, and therefore I ask you to accept them if they pass an equivalent examination." There is no case of retrogression here. We are merely desirous of standing still. If you wish to increase the standard of the preliminary examination say so and I will support you, but I do object to things being brought forward in this manner without having an opportunity of voting upon them properly.

Mr SIMPSON: I think we shall have to interpret bye-law 52 before we are in a position to vote on this subject. Although I am not disposed to vote in favour of retrogression, I am distinctly of Mr. Barrett's opinion that Professor Dewar's motion is altogether unnecessary if my reading of bye-law 52 is correct. There it says that it shall be an "examination such as would satisfy the Medical Council on June 30th, 1896." I do not know whether I am interpreting the bye-law aright, and I think it would be as well if we could have some interpretation put upon it which could be accepted as final.

Mr. MULVEY: It is simple enough.

Professor DEWAR: Can we ask the solicitor to give us his opinion.

The PRESIDENT: I do not think it is necessary.

Professor W. O. WILLIAMS: There are about a hundred examinations at which students may sit who desire to enter the veterinary schools. In England the most convenient and the easiest examination is that of the College of Preceptors; in Scotland the most convenient and the easiest examination is that of the Educational Institute of Scotland. The College of Preceptors have made no alteration in this standard; the Educational Institute of Scotland have received instructions to make an alteration in their standard which will debar the men who sit for that examination from getting into the colleges. All that is asked is that the two examinations should be put on the same footing.

Professor McFADYEAN: I am compelled to rise to dissent from a few of the very dogmatic assertions which have been made by some of the previous speakers. Professor Williams says—from what source he derives his knowledge I do not know—that the examination conducted by the College of Preceptors is the easiest examination in England. I do not think that is a well-founded conclusion. The only indication we have at the present time open to the public is a comparison of the papers set in the examinations and the proportion of rejections. Taking that as the ground for forming an opinion, the College of Preceptors' examination is not the easiest—it is a long way from the easiest. Then it suited Professor McCall's purposes to start with the assumption that the examination of the Educational Institute of Scotland and that of the College of Preceptors are of equal severity. I also dissent from that. He may be right, but it is my emphatic opinion that the examination, as hitherto conducted by the Educational Institute of Scotland, is on a very much lower grade than that of the College of Preceptors, and I think he will probably come to that conclusion himself if he will write to the respective secretaries of these bodies and ask for information as to the number of candidates usually rejected. I think that a better case might have been made out for the alteration of the bye-law than any of these gentlemen who are so much interested in it have succeeded in showing. I am not going to say that the council should not consider whether it is necessary to effect some alteration in the bye-law which will make it possible for us to accept the examination of the Educational Institute of Scotland. I am perfectly clear that Mr. Barrett is wrong in thinking that if they raised the standard of examination for medical students, but held a special one for veterinary students we shall then be able to accept certificates granted on the special examination. I am quite sure we cannot do that without violating our bye-law. The bye-law must be read in connection with the schedule, and the schedule specifies the preliminary medical examination of the Educational Institute of Scotland. But if we are correctly informed, the Educational Institute of Scotland must hold an examination of a higher grade in the future, and what we are asked to do is to sanction the Educational Institute of Scotland holding a special examination for veterinary students. I think that is where the council require to be on the alert. I do not agree with Professor Edgar that it is desirable that we should, without discussion, follow the General Medical Council whenever it moves up. We simply adopted the regulations of the General Medical Council in 1896 as the simplest means of defining a standard of knowledge which would be sufficient for us at that date, and if we do move on I think it ought to be after due deliberation. But the important point is this. At the present time there is no special veterinary examination. It has been wrongly alleged that there is a special examination conducted by the College of Preceptors in London. That is not the case. Whenever veterinary students are examined in London they have submitted to them the same papers which at the same day and hour are being submitted to medical students. In other examinations it may not be medical students—there are various university local examinations, but the point is they are not specially held for veterinary students, and we have therefore a sort of guarantee that the standard will be maintained. If it appeared to this council that it was desirable the examination of the Educational Institute of Scotland should be recognised in the future, while they were attempting to make it of the same grade as before, I am perfectly satisfied that the council itself must enter into negotiations with the Educational Institute of Scotland. It would not do to leave that to the schools.

Professor DEWAR: There has been a great deal of matter introduced into this discussion which has had, so far as I can see, no relevant purpose except

to deceive members of council. No one here proposed that any new examination should be instituted, it was only that the examination which our students in Scotland had been passing since the four years' course was instituted should be continued on the old standard. To assert that we are seeking to institute a special examination is simply trailing a red herring across the council. I was very much surprised to hear the tone adopted by several of the speakers. Mr. Dollar seemed to think that we wished to diminish the standard of education: we wish to do nothing of the kind. All that we wish is fair play. We wish that the veterinary students in Scotland should continue to be examined on the same level as the veterinary students in England. I am afraid that will not be done unless we take some steps to alter this bye-law. I shall be very pleased if Mr. Barrett is right. With regard to the standard of the two examinations, I should not have referred to it at all if Professor McFadyean had not done so, but the examination of the College of Preceptors is evidently picked out by veterinary students, as the majority of them pass it in England. Mr. Dollar says there are 51 examinations which students may take. I cannot question that; but supposing we have not another examination in Scotland but the University examination for the degree of M.A., would it not handicap our Scotch students very much if they were required to pass this examination? It will surely handicap Scotch students very much if they have to come to England and pass an examination at the College of Preceptors. I do not suppose this council will be willing to pay their expenses; and another thing is, we do not wish our Scotch students to come South to pass this examination. Human beings have a habit of coming South and sometimes do not think of returning. All we ask for is a preliminary examination in Scotland on the same level as the preliminary examination of the students in England.

A MEMBER: Could not the Educational Institute of Scotland hold a special examination for veterinary students as held on June 30, 1896?

Professor DEWAR: Certainly, and it would give any guarantee this council might require.

Mr. DOLLAR: But it would not be legal.

Professor DEWAR: It would be legal if the bye-law was altered.

Mr. SIMPSON: May I ask the solicitor if in the event of the Institute of Scotland holding a special examination for students as recognised by the General Medical Council in 1896, and in the event of Professor Dewar or anyone presenting a certificate of that kind, we shall as a council be in a position to decline receiving it?

The SOLICITOR: I should say you would have to reject it.

Mr. SIMPSON: That makes it clear.

Mr. BARRETT: May I ask, Mr. Thatcher, on what that opinion is based?

The SOLICITOR: It is not a question for a legal mind to answer; it is a question, I was going to say, of common sense. If there is a preliminary medical examination at the Educational Institute of Scotland it must be that which is in force at the time the examination is passed, not one of equivalent value to a previous time, because that will not answer the description in the bye-law and schedule.

Professor DEWAR: This is a matter of great importance to us in Scotland. We are only asking for fair play. Suppose this examination is raised by the General Medical Council again—suppose in the course of three years it is raised again until it is as nearly as high as the B.A., and that there is no alteration made in the College of Preceptors, is it to be supposed that our students in Scotland are going to be asked to pass this increased examination when the students in England are passing an examination which was existing when our bye-laws come into force?

The SOLICITOR: That is not a question of law at all. It is a question of the policy of the council.

The motion was then put and lost.

Professor W. O. WILLIAMS moved that bye-law 67 shall be altered to read thus:—

> No rejected student shall be eligible for re-examination unless he produces satisfactory evidence that he has attended a full term of 10 weeks at a veterinary college between the dates of rejection and re-examination.

The reason, he said, why this proposition had been brought forward was this, that the examinations in Scotland are held in May and at Christmas, and it was the impression when the Scotch schools agreed to those dates being fixed, that they were so fixed to divide the studies of the students so that if they were rejected at the May examination they would have a good period to prepare for the following examination; and if they were rejected at the Christmas examination they would still have a good period to prepare for another examination. It so happens that the examinations in London are not held until July, and it has come to our knowledge that a number of students who have been rejected in Scotland at the end of May have joined the London Veterinary College, have received certificates or permission from the Principal of that school, and have presented themselves for re-examination within some five or six weeks after rejection. This we consider is wrong, because we are of opinion that a student who has been carefully taught for a period of eight months, and is then sent for examination, is quite in his prime, and that if he was rejected it is an impossibility in the majority of cases, and certainly is impossible in justice to the profession, to educate that man in six weeks so that he can pass the examination. When a man has been working for that period of eight months, he gets exhausted, and it is quite impossible to get him sufficiently re-invigorated to pass the examination. As a matter of fact, this thing would not have been brought up if we considered our pockets, because we are losing fees by making the students attend this additional period. If we like, in Scotland, when the students are rejected in May, we can do as we did in this year, that is, have a summer session, and charge the students additional fees. We do not desire to do so, because we consider it would be unfair to the profession to rush men through their examination. At the same time, those of you who have ever been examiners, or who happen to be examiners on some boards, must know how uncomfortable a feeling an examiner must have to find facing him a student who was rejected a month or five weeks previously. This examiner in May did his very best to find out if a student were fit to be passed, and after examination he considered that he was unfit. Five weeks afterwards he is asked again to find out what he knows, and he is supposed to be able to discover in some cases that the man is amply fitted to be a member of the profession. It is rather an impossibility to my mind. I think that when a student is prepared for examination and has failed in another examination, the first thing he wants is a brain rest for a month at least, and then to commence and gradually get into training for his next examination. But to think that a man can go home on a Friday a rejected student, and commence his work on the following Monday, and do that work for four weeks and then pass his examination, is unfair to the profession, to the public, and to the student. Therefore I propose that we alter the bye-law that this may be rendered impossible in the future.

Mr. MULVEY: I beg to second the proposition moved by Professor Williams, and I do so because I believe that the time which has been taken up in the education of the student after the time that he is rejected is certainly too short. But I do so more particularly on this ground—that when this bye-

law was passed it was never thought possible that a student could present himself within any such limited period. That arose because the examinations were altered, and it is now possible to hold an examination in one part of the kingdom in May and another in July, thus giving facility for a student to pass from one part of the kingdom to another.

Professor McFadyean: I think this council has seldom witnessed a more touching exhibition than the tender solicitude displayed by Professor Williams for these rejected students in Scotland. It almost made one cry to hear how he pleaded for them, that the student who had been rejected at the New Veterinary College in the month of May should not be allowed to return to his studies and present himself in July. But may I submit that the rejected student ought himself to be consulted in the matter. I think that this is a case in which the student ought certainly to be saved from his friends. A student who is rejected in May, or at least many of the students who are rejected in May, are most anxious that they should be allowed to continue their studies at some veterinary college. The truth of the matter is that it does not suit the convenience of the New Veterinary College and the Glasgow Veterinary College to continue teaching students after they have been rejected in May. There is nothing in the bye-law to prevent them, but they prefer not to do it, and they have the courage—I will not say the effrontery—to come here and ask this council to pass a bye-law which is intended to deprive the Royal Veterinary College of the opportunity of teaching these students in the interval if they desire it. Professor Williams asked us to figure a case in which a student came up before an examination in Scotland, and was rejected, and five weeks afterwards came up to London to be re-examined by the same examiner. I would like to know on what occasion examinations occurred with such frequency as that—an interval of five weeks. The council must remember that the examinations in Scotland are usually held in the middle of May, and in London they are usually held in the middle of July. That is, roundly speaking, a period of two months, and I entirely demur to the proposition that the student who is rejected in Scotland in May is unfit to study thereafter, and that he could not possibly pass if he did come to London and present himself in July. That is a matter about which there is no occasion to theorise, because students who have failed in May in Edinburgh *have* come to London and passed in July, and passed with credit. And I would ask the council to remember the bare possibility that a student might see more in eight weeks at one veterinary college than fifteen weeks in another. The real truth is that these gentlemen think that the Royal Veterinary College, in teaching in the months of May, June, and part of July, is reaping an advantage—a perfectly legitimate advantage under the bye-laws—and they come here and ask us to deliberately change the bye-law in order that the Royal Veterinary College may be deprived of this advantage, an advantage which is equally open to themselves. Professor McCall, when he brought this subject up at the last meeting, represented what I think he ought to have known was not the fact. He represented that a student rejected at the Glasgow Veterinary College could not be presented under the bye-laws in July, unless he came to London. Now, that was not proved; it was not a fact. Professor McCall must have known that in order to present the student in conformity with the bye-law, all that was necessary was that at the Glasgow Veterinary College the courses of tuition should be continued until the next examination. But it does not suit the Glasgow Veterinary College to conduct classes between the May and July examinations, and therefore they could not honestly certify that student to be eligible. But it was not a fact that they could not have certified them to be eligible if they had chosen to keep their classes in motion. Therefore it is not true that the bye-law, as it at present stands

confers any special advantage on the London Veterinary College. It confers an advantage which is open to all the colleges. I admit it is an advantage, and a distinct advantage, because it really gives us three examinations in the year. And let me remind the council that not long ago we had three examinations in the year; we had one in March, which was withdrawn on the sole ground that the finances of the R.C.V.S. were at that time very much straitened, and that the March examinations were a source of loss rather than of profit. But two examinations were allowed in Scotland and two in England, and inasmuch as two of them do not fall at the same time, we have virtually three examinations. If we are going to insist on a hard and fast line of ten weeks we are bound in common honesty that a student has an opportunity of being examined at the end of ten weeks. When you do that I am prepared to drop my opposition, but in the meantime, in the interests of the students, I strenuously resist it. At the present time they reject a student in December, and if their bye-law is passed, and he happens to be a London student, he will have no opportunity of being re-examined until July ("Question"): Well, he might go to Scotland.

Professor McCALL: He does.

Professor McFADYEAN: That is the thing you want to stop. But if your bye-law is carried, by going to Scotland he would surrender the opportunity of presenting himself again in July if he failed. So that you are taking away virtually what is a very great advantage to the student, not to students in London alone, but in Edinburgh as well. But it is not a matter of absolute indifference to the college. It will make some difference to the finances of the college if you alter this bye-law. In the last July examination I think about twenty or thirty students who failed in May were taught in the interval between May and July, and came up for the examination in London in July, and they paid fees which this council pocketed. Our receipts would have been £100 less. I can imagine somebody saying, "There is no profit in that, because the student, if he had not been allowed to come up in July, would have come up again in December, and we would have got his fee again in any case." That is not correct. Fifty per cent. of the students are generally rejected, so that suppose there were 30 students who came up, from 15 of those we really get an extra fee. But I put it on the ground of justice to the students that they should not withdraw this privilege. I put it also on this ground, that it seems to be an invitation to the council to deliberately alter a bye-law in order that one college, which is desirous of profiting by the opportunity, should be debarred from that because the others desire to stand out.

Mr. TRIGGER: I fully intend to support the resolution of Professor Williams, because I think myself the system which is adopted now is driving a coach and four through our bye-laws. I do not think that it was ever intended that this condition of affairs should be allowed to exist. The two bye-laws, 66 and 67, must be taken together, and it is perfectly evident that the council at that time had in their minds that a student might very probably have to study again for thirty weeks before he presented himself. This condition of affairs arises simply through our altering the bye-laws for the benefit, or shall I say the convenience, of the council, and the benefit of the R.C.V.S. to allow the examinations in London to be in July, and those in Scotland in May. That has entirely brought about this state of affairs. I am satisfied that this is a condition that was never contemplated by the council, and it is undesirable, in the interests of the profession, that a young man who has been rejected should at such a very short interval be allowed to present himself again.

Professor EDGAR: The question opens up a principle which I do not know whether the council is prepared to accept or not. For the first time

we have absolutely defined what a full term is. Where Professor Williams gets his authority for saying that a full term is 10 weeks I do not know. It is not in any document of this college. We have no definition of a term, we have a definition of a session. It is purely an arbitrary separation which the schools choose to make and call a term of 10 weeks. When bye-law 67 was framed, the framer of it introduced a clause stipulating that the period of re-study should not be less than eight weeks. He was prevailed upon afterwards to use more guarded language. Do you think, gentlemen, that we are the most competent authority to say how long a student shall be referred to his studies when he fails in his examination? I should think it is the greatest possible reflection upon the intelligence of an examiner if he is not the best man to say how long a student shall be referred to his studies. You choose to say by passing this resolution that he shall be referred to his studies for a period of not less than 10 weeks, which gives the examiner no option in the matter. He may have failed, as my own boy did, in two out of three, passing in two in honours and failing in the third.

Mr. TRIGGER: It is not a question of dividing the examination at all.

Professor EDGAR: It is a question of our right to refer the student to his studies for 10 weeks—whether the examiners are the most competent authority to say how long, if he has any right to be referred to any special time.

Mr. FRASER: That is not the resolution before us. We assume we have the authority.

Professor EDGAR: There is no authority at present. I am contending we are now fixing the period for which a student shall be referred to his studies. Professor Williams has told us what this is. It is simply a question of knocking down the argument of the one school by the guns of another. It may not lead to anything else but the extension of the London time for another two weeks to defeat it, and then we shall be in exactly the same position we are in now, and the influx of students from Scotland to London will be the same as it is now. We are not acting on principle, and if we do not act on principle, our superstructure is not worth a snap.

Professor PENBERTHY: I do not feel very strongly on this matter myself. I think the most we could do is to stop the examiners from allowing any unfit person passing into the profession. That is the principle we are bound to act upon. We are not competent as a council to judge whether seven or ten weeks is the exact measurement of time for which a student shall be referred to his studies. I should like to refute absolutely some of the statements of Professor Williams. He said it is impossible for a man to leave his studies in May, and come back and pass his examination in July. Go back to the last July examinations, and see how many of the men who left their studies at the end of May and came up in July, passed. I believe it was a very large majority. I disagree, and have always disagreed with the summer session. We who disagreed had to yield to it at the time, but I can assure Professor Edgar that the Royal Veterinary College will not be affected in any way if it has to put on two weeks or take off one week. We shall meet the exigences, so far as it goes. I do not know how long the period of study is, but it is longer than six weeks. The period which elapses between the examination in Scotland and the examination in London in July is, I think, seven weeks.

Mr. MULVEY: Seven weeks is about the longest.

Prof. PENBERTHY: I agree with Prof. Edgar that there is a principle involved here, whether we are going to lay down the time for study, or whether we are going to admit students after they have satisfied the examiners that they are fit to practice the art and science of veterinary medicine and surgery.

I think it would be perhaps dangerous, at any rate it would be serious, for us to judge of the capacity of a man to practice veterinary medicine or surgery by lengthening the period between the failure and the next presentation.

Prof. J. McCall: I am very much astonished at one gentleman who has been speaking about opening the door to inferior examinations, that he should be an advocate of hearing an examination five weeks after the previous examination. Can that gentleman, or any other gentleman, quote to me an educated body of men in Britain in which the same chance would be given a student that has been rejected at one examination he should be allowed to go up for the same examination within five or six weeks? It simply makes the thing practically a disgrace to the R.C.V.S. if it is allowed. It not only reflects on the teaching, but on the examiners, and most on the examiners, because if they are not able to tell the men who should be passed or rejected on one day, it is very unlikely that they will be able to do it within five weeks afterwards.

Prof. Penberthy: Why not?

Prof. McCall: Some mistake must have been made the first time. There is a very important point which I am sorry to have to mention, but it seems to crop up in everything the schools are interested in, and that is the financial point. That is exactly where the shoe pinches. The fact of the matter is, if this bye-law is allowed to come into force, or at any rate if students are allowed to be examined three times in the year, it is putting a premium on students leaving the Scotch schools and going to London. They are rejected in Scotland at the end of May. If by going to London they they can go up for their examination within five weeks, they go, because it saves time. What is more, it means that they pay to the London College 20 guineas as a fee. The reason they pay that fee is not that they expect to get better teaching, but simply in order to be able to go up for this examination. This fee which they have paid entitles the student to be taught at the college for twelve months, and if he is rejected is he such a fool as to go back to Scotland again and pay another fee for his teaching? That is one of the important points. Then there is an advantage which the London student has over the Scotch student. Take an examination at Christmas; a man gets rejected either in London or Scotland, if he is a London student he can go to Scotland in May and go up for his examination by paying a fee of five guineas. He does not subscribe a single cent. to the funds of any Scotch College. If he does not pass he goes back to London and there is no chance of that man being taken away from the London College. Then supposing a man gets rejected, say, in April, in Scotland, he would not be eligible for examination until the following Christmas. By going to England he is allowed to go up in July. Suppose the man is in his final year. That man has to pay 20 guineas for being taught for a month or five weeks. The whole advantage is with the London school, and I am certain that the council do not wish as a body to give any school an advantage over its neighbour. I say we should really consider this move from the simple personal point of view.

Professor Dewar: The short and the long of it comes to this. If the present system is continued, if our Scotch students come to London, it simply forces the Scotch schools—I speak for myself—back to the summer session, which we were very glad to get rid. But I am afraid there will be no help for it.

Mr. Dollar: As a graduate of a London school I have to offer my most sincere thanks to the two representatives of the Scottish schools for their very high testimonial to the character of the London schools. Professor McCall has dealt a good deal with the financial question, and points out how these poor innocent Scotch students are brought up to London and fleeced of their twenty guineas for an absolutely inadequate period of instruction, and worst

of all, that when they once get up there they are not allowed to go back again. That may be very wicked on the part of the London school, but I confess that for my own part I am unable to see the wickedness of it, and still less do I see the necessity for the Scotch schools coming to us to complain about it. It simply becomes a question of what is the most convenient manner of passing our examination, and I feel sure that the students at the Scotch colleges are not such extremely innocent and confiding persons as to pay away their bawbees for a purpose which is not likely to be to their advantage. Therefore I think that all the solicitude which has been exhibited on behalf of the unprotected student is a little misplaced. But perhaps I go even further than many of the persons who have spoken here to-day in opposing the making of a term of ten weeks a *sine quâ non* for the appearance of a student at his professional examination, because I always have contended, and I still contend, that this college has no distinct powers delegated to it which legally entitle it to fix any period whatever. The college does not appear to have any powers whatever to regulate the time at which the student shall study, and I think such a time regulation would be monstrous, because, firstly, I think that the student should be left free and untrammelled. If he has good intelligence it stands to reason that he may be successful in obtaining the amount of information in six or seven weeks that another man wants more time for. Furthermore when a man has been rejected at one college he must have a certain preliminary knowledge so that his subsequent period of instruction need not be so long. Thirdly, I object most strongly to the introduction of this bye-law because I see in it only a pecuniary question, the expression of dissatisfaction on the part of certain schools which do not consider it to their advantage to cater for the wants of students, and who seem to consider it an injustice and a wrong on the part of this council not to interfere with the school which shows greater enterprise than they do. I do not think this council is prepared to uphold any such views, and I shall strenuously oppose this motion.

Professor WILLIAMS: Professor McFadyean endeavoured to demonstrate that there is no advantage gained by the London College, but I wish to point out to you this, that the London College's session commences in October and is carried on till July, and during that period there are 30 weeks' teaching, during which the student can be examined at Christmas, in May in Scotland, and in July in England. He has three examinations during the session. A Scotch student who joins in October can be examined at Christmas and in May; he has only two examinations, but the London College holds out the inducement, "Give us 20 guineas, and we will give you a third examination."

Professor PENBERTHY: Is this in order, that the interests of institutions should be discussed here?

The PRESIDENT: It has been dragged in, unfortunately, on both sides. I think the discussion has lasted long enough now.

The resolution was then put to the council and carried by 11 votes to six.

On the requisition of Professor EDGAR, the names for and against were taken, as follows:—

For (11)—Messrs. Dewar, McCall, Williams, Mulvey, Trigger, Fraser, Locke, Carter, Wartnaby, Barrett, and Cope.

Against (six)—Messrs. Penberthy, Edgar, Shave, Duck, Allen, and Dollar.

Motion by Mr. Dollar.

Mr DOLLAR: I regret very much having to occupy your time at so late an hour, but my motion is like the woman's baby, only a very little one. It is to

the effect: "That no member of council shall act as a scrutineer to examine the voting papers in elections to council." I do not think it will require very much evidence on my part to convince you of the desirability of members of council abstaining in this respect. I need not point out that it has been the immemorial custom of this college for the scrutineering to be done by persons specially appointed, and that "so long that the memory of man runneth not to it" there has never been, until the present year, an occasion on which it has occurred. Therefore it is not on that side of the question that I wish to dilate. I wish to point out that the question before us is whether we should place in words what has always been the custom of the college. With regard to the other great public bodies their elections are fenced round with the most jealous precautions. The greatest care is taken that secrecy is observed, that votes are unquestionable and uninjured, and that no person having even the remotest interests in the results of the election shall have access to them, and, in fact, the election is made a kind of sacred thing round which the whole light of the particular corporate body centres. Now any persons having the remotest interest in the result of the elections are most carefully excluded from Parliamentary, School Board, Council, and other public elections. In our own case we have had the same principle recurring over and over again. From the earliest days of the foundation of this college in 1844 the principle was recognised that no interested person should take part in performing an action in which he happened to have any particular interest either one way or the other, and therefore you will find in the charter of 1844 that it is expressly stipulated that professors shall not hold the post of examiner. At a somewhat later date you will find that members of the council were excluded from acting as examiners, because it was thought that the possibility that a member of council might vote in connection with his own election as a member of an examining board would have a prejudicial effect on the reputation of the board. It was not suggested, I think, that anything of an improper nature took place, but it was thought better that even the possibility of such a thing being suggested should be avoided. Again, if you will refer to bye-law 116, which was passed at my instigation, you will discover that it is enacted that in cases where a complainant happens to be a member of the Registration Committee he shall not sit in judgment on the person accused. There, again, I think at the time of the passing of that resolution I had very great pleasure in alluding to the fact that I believed no cause for suspicion had ever arisen, yet it commended itself to the council as a wise and proper thing to do, to record in so many words their feeling on this matter. I need, therefore, gentlemen, only prove to you, as I think I easily can, that members of the council always have, and probably always will have, a certain academical interest it may be, but nevertheless an interest in the results of the elections in order to convince you that it is undesirable that they should act as scrutineers. And for this purpose I have taken the trouble to go back 15 years, and to look up the candidates and the persons nominating them, and certain other particulars from that period. I may say that in these 15 years the total number of candidates was 204, and of that number there were 124, or over 60 per cent., nominated by members of the council. I need not say that members of the council nominating any gentleman probably desire to see him on the council, and that they do so desire used to be shown in the olden times by the fact that when a member had been registered by the council he was very often elected on to council as vice-president, an office which he only occupied for a year. Of the 204, which is the total number of candidates nominated in 15 years, 132 were successful; and the figures with regard to the successful candidates are very much more striking than they are with regard to the candidates taken

as a whole, because the number of nominations by members of the council of successful candidates amounts to 134—that is to say, it must have happened in one or more instances that these successful candidates were nominated by two members of council. I will not trouble you further with these figures, which are of considerable length; but I will wind up with one very interesting fact, namely, the number of candidates who were in certain years nominated by single persons. In the year 1889, for instance, one member of council nominated three, one member of council nominated five, and two other members of council nominated two candidates apiece.

The PRESIDENT: I think you are going a little wide, Mr. Dollar. Statistics will not help us very much.

Mr. DOLLAR: I think they sufficiently prove, however, that a member of council who nominates a candidate has an interest in his election. In three years one member of council nominated 20 distinct candidates. I think I have said sufficient to show you that it has been the honourable custom of this college for a very long period not to interfere with the elections. I only desire that the college should crystallise in words what has been its immemorial and honourable custom, and I leave the matter in your hands.

Prof. PENBERTHY: I beg to second the motion.

The resolution was then put and lost, three voting for it and eight against.

Mr. SIMPSON: As this seems to be somewhat of a personal attack upon myself, I refrain from voting. I would rather leave my honour in the hands of the council.

Mr. DOLLAR: Your name has not been mentioned.

Professor PENBERTHY: Mr. Simpson has made a statement which is false.

Mr. SIMPSON: I referred to the proposition; I said nothing about Professor Penberthy. Before Professor Penberthy proceeds, I trust he will see the desirability of withdrawing the word "false" which he has made use of.

Professor PENBERTHY: What I was going to say was that Mr. Simpson has made a statement which is false—if he applies a personal motive to me.

Mr. DOLLAR: May I ask for the names to be taken down.

The names were found to be as follows:—

For (3)—Messrs. Dollar, Penberthy and Shave.

Against (8)—Messrs. Mulvey, Locke, Fraser, Trigger, Carter, Wartnaby, McCall and Williams.

Mr. DOLLAR: I will ask you, sir, to put a question, inasmuch as this has been described as a personal attack, viz., whether Mr. Simpson considers I have made a personal attack upon him.

Mr. TRIGGER: I beg to move a vote of thanks to the president for his conduct in the chair.

The resolution was carried by acclamation.

The PRESIDENT: Mr. Simpson's name was never mentioned. He interposed a remark which I did not take any cognisance of myself.

Mr. DOLLAR: If it is suggested that I have made any personal attack on Mr. Simpson, I declare that statement is unequivocally false.

The council then adjourned.

THE IRISH CENTRAL VETERINARY ASSOCIATION.

THE usual quarterly meeting of the members was held in Hayden's Hotel, Ballinasloe, on Wednesday evening, October 5th. The following were in attendance: Messrs. D. Fulton, Mullingar, president, in the chair; W. A. Byrne, Roscommon; J. J. Vahey, Mayo; D. Hamilton, Ballina; M. J. Cleary, Mullingar; J. W. Nolans, Birr; J. Freeman, Dublin; W. Cargill Patrick, Ballinasloe; P. J. Howard, Ennis; C. Concanon, Tuam; O. Coll, Limerick;

C. Rea, Clonmel; J. McKenny, Dublin; E. C. Winter, Limerick; A. J. Moffett, Ballinasloe; E. J. Bolton, Athlone. Mr. M. J. Cleary undertook the regular secretarial work in the absence of Mr. A. Watson (Dublin), the secretary, whose absence was unavoidable. Mr. M. J. Cleary then read the minutes of the last meeting.

The meeting at Mallow was abandoned by the direction of the president (Mr. D. Fulton) owing to Mr. R. C. Bullen not having his paper ready.

Mr. J. FREEMAN (Dublin) desired to censure the secretary (Mr. A. Watson) for his neglect of duty in not incorporating in the minutes the contents of his wire sent to the Dundalk meeting. Several others made similar complaints.

Mr. D. FULTON (Mullingar) pointed out, as far as he knew, only one telegram had arrived, and that was Mr. J. Freeman's (Dublin).

Mr. M. J. CLEARY (Mullingar) substantiated the president's remark. He thought it would be impossible to incorporate all the letters in the minutes, as it would lead to endless trouble and possible confusion. The minutes were then duly signed.

Mr. O. COLL (Limerick) proposed, and Mr. C. CONCANON (Tuam) seconded, that Messrs. J. Preston, Mallow; McCreagh, Fermoy; G. Phelan, Cork; L. P. Power, Cashel; D. Hamilton, Ballina; D. M. Barry, Mallow; Sykes, Buttevant; and Thos. J. Nolan, Ardie, be elected members of the Irish Central Veterinary Association. Carried unanimously.

Mr. NOLANS (Birr) proposed, and Mr. J. Freeman (Dublin) seconded, and Messrs. B. J. P. Mahony, Maryborough, and T. J. Renehan, Kilkenny, were also elected as members of the above.

After a short discussion relative to the holding of the next meeting, it was agreed that it should be held in Dublin during the second week in January, 1899.

Several subscriptions were handed in, which were duly acknowledged.

The Suggested Amalgamation.

Mr. O. COLL (Limerick) asked if there were any further steps taken towards the amalgamation of this society with the Veterinary Medical Society of Ireland.

Mr. J. MCKENNY (Dublin), as secretary of the Veterinary Medical Society of Ireland, spoke at some length, in which he sketched the probable working of the combined associations, should that desideratum be ever consummated.

Mr. D. FULTON (Mullingar) deprecated this discussion, as the society had not been made officially aware of it, and ruled it out of order.

Bill Posting.

A rather sharp discussion arose *re* bill posting over the town. Finally, Mr. P. J. HOWARD (Ennis) proposed, and Mr. O. COLL (Limerick) seconded—

> That in future veterinary surgeons have their bills only posted on the premises at which they intend transacting business.

This motion will be brought up for discussion at the next meeting.

Examiners at Shows.

Mr. O. COLL (Limerick) asked, had their demands regarding shows been acceded to?

Mr. M. G. CLEARY (Mullingar): No.

A discussion then followed in which Messrs. C. Concanon, Tuam; P. J. Howard, Ennis; and J. Freeman, Dublin, joined, but nothing definite was arrived at in this matter beyond the resolution passed at Limerick.

Votes of Condolence.

Mr. O. COLL (Limerick) proposed, and Mr. J. MCKENNY (Dublin) seconded the following resolution of condolence, which was passed in silence:

> That it is with deep regret that during the past year we have lost two of our members and talented veterinary surgeons through the sad death of Messrs. P. Walsh, of Ballina, and P. J. Dardis, of Longford, and that we now tender their relations our deep sympathy for their great loss.

INFLUENZA.

BY D. FULTON, M.R.C.V.S., MULLINGAR.

Mr. Vice-President and Gentlemen,—As our worthy secretary failed to get a member to read a paper before this meeting, he asked me at the eleventh hour to fill the gap, and as the time was short, the paper necessarily is short also. The subject I have chosen is influenza. A protean disease—such is the term employed to denote the character of that affection usually, and for a considerable number of years past known by the title of influenza.

In whatever light the tendencies of our veterinary medical association may be viewed, no higher standard of efficiency and usefulness can be claimed for it than under its present constitution. The bringing together of the members of our profession, men almost of every shade of opinion all uniting with one common impulse, energy and design, to fathom the impenetrable depth and mysteries of such disease as that I propose to illustrate for present consideration. And no occupation can be more ennobling to any community that shall undertake such pursuits in which mankind in general shall reap a corresponding share of the resulting advantages and rewards. It is not my intention to occupy your time with any lengthened critical disquisition on the history and ravages of influenza, as it occurred many years ago; suffice it then to state that the disease has occurred with more or less malignancy, and has continued at intervals of longer or shorter duration up to the present time. For the past 30 years we may trace its destructive effects upon our horses and cattle, sheep even in some instances not escaping. At one time, assuming the mild forms of a catarrhal affection, terminating in others in typhoid-pneumonia, pneumo-enteric or malignant pustular, aud gangrenous disease: hence the denomination, protean disease.

By many writers it appears under the ambiguous title of epidemic catarrh, and from its virulence at times and under particular circumstances malignant epidemic. Our Continental brethren, who have had a full share of its ravages, appear not to have been so well satisfied with the term as ourselves, and have described several forms.

There are several points with regard to this affection which I wish to deduce for consideration, reserving others of a minor character for being dealt with in the discussion which is to follow: (1) What is the nature of influenza; (2) What are the causes, proximate and remote; (3) What is the treatment necessarily indicated by these considerations.

First then, the nature of influenza. Continental writers have enumerated three distinct forms: 1st, the catarrh rheumatic; 2nd, gastric or bilious rheumatic; 3rd, gastro-erysipelatous. In this country that line of demarcation has not been so closely drawn, symptoms which constitute the whole being more or less mixed up in each attack, though differences have been noted of

various outbreaks which characterise this affection as partaking of special predominating tendencies.

The term specific, as applied to influenza, appears to me to consist principally in the strange tendency or predisposition towards a rapid and early appearance of debility, accompanied by a strangely peculiar sensitiveness to certain medicines, while to others the system is altogether incapable of response, and with regard to these stages of the affection have been known to effect a complete reversion of the phenomena usually attendant upon their administration. That excessive prostration of all vital powers which so rapidly follows upon the track of the proximate symptoms, evidently arises from the arrest placed at such an early period upon the organs of assimilation and their concomitant effects on the action of the capillaries. Nutrition is then absolutely wanting, and materials of a highly elaborate character which should be formed, especially adapted to the maintenance of those functions essential to life. The nervous system scantily developed and at best but a most inferior production so far as purity is concerned. This in turn failing to supply the requisite demand of the organs dependent on the brain for all that constitutes action. That great distributor gives as it receives—enfeebled life—receiving less and giving less, its own share contributing in no small degree to its special and perfect destruction. Vascular engorgement and its inevitable result, serous effusion, through the dilated, stretched, and thinned coats of blood vessels lacking their proper stimulus.

I look upon influenza as a disease induced in the appropriative and eliminative systems—disease of those wonderfully elaborate structures which are occupied in the production and appropriation of nervous energy and animal heat, and perpetuation of these forces so essential to the whole which we dominate vital, and also those which are delegated to the equally necessary and important office of secretion. Can we wonder, then, that nervous power should decline, that animal heat should be no longer forward when materials for their propagation and support are not furnished? Can we feel surprised that blood should become impure when organs for its purification, by separating from it the unsound and deleterious elements are denied the power of action, nervous and structural? Disease of these minute structures I consider to be caused by a morbid ferment introduced within the circulatory system, by which that vital force (catalysis) is more or less withdrawn, and hence we have impeded circulation throughout the whole capillary system—vascular engorgement, suspension of the formation of all essential vital principles, sudden prostration, passive effusion, without the power of becoming organised; internal combustion is not proceeded with, and excretion of all effete and hurtful products contemporaneously arrested, the whole producing within the system causes which are especially exerted towards its own destruction.

Post-mortem appearances fully justify the conclusions arrived at, and treatment successfully pursued in accordance with inferential deductions perfectly ratify their soundness. What, then, are the causes of influenza? These may be enumerated thus:—

Proximate causes.—A low, weak, and vitiated state of the fluids and solids, inertia of the vital powers, and total absence of all conditions which destroy parts of the system by violent and powerful action induced by continual exposure to some or all of the following.

Remote causes.—These may be further sub-divided into predisposing and exciting. Predisposing—hereditary taint, ill-conditioned, badly-drained, and ill-ventilated habitations, insufficient food or of questionable quality, with other causes which tend to reduce the tone of the system, as indiscriminate use of cooling or purgative medicines, hard work long continued, and in conjunction with the above, the process of depletion and subjection to

diseases previously of kinds as strangles, colds, etc. The exciting are doubtless some of the above in excess, exposure to extreme states of temperature, sudden subjection to an atmosphere charged with morbific matter thrown off from animals severely affected, the influence of easterly cold winds and atmospheric conditions, and peculiarities of a profound and delicate nature too subtle for recognition by ordinary senses.

Influenza I believe to be decidedly contagious, and I am inclined also to the belief that the disease has in no measure differed at the present period in its material characters of a malignant typhoid and variable type from those outbreaks of which we read as having occurred thirty or forty years back, except probably that it has not been so prevalent. A result of the adoption of better understood principles of feeding, housing and ventilation.

Symptoms.—Dry staring coat, cold extremities, injected mucus membrane at times tinged yellow, elevation of temperature ranging from 102 to 104; short oppressed cough, with discharges from one or both nostrils, feeble and compressible pulse, varying from 60 to 80 per minute; mouth hot and dry. The desire for water something great, sore throat is invariably present, rapid muscular debility, the fæces are dry, hard, and coated with mucus; the urine high coloured, scanty, containing albumen and uric acid.

Treatment.—What line of treatment is necessarily indicated by these considerations? To this I would briefly reply, that which soothes, supports, and raises the prostrate vital powers—not violent and powerful exciting agents, these must be strictly avoided. Pure air, even temperature, warm clothing, quiet and seclusion, with an earnest attendant trained to implicit obedience, and well directed domestic treatment and half the means of cure are already at the hands of the veterinary surgeon. By soothing, supporting, and stimulating treatment would imply the effects derivable from the employment of such agents as the acetate of ammonia, aromat spts., ammonia, and the carbonate in the solid form, mixed in treacle in form of electuary. This being used in conjunction with the extract of bellad. proves useful in reducing the frequency of the irritable and weak pulse of this disease, while correspondingly the nervous energy is restored and strengthened. Ammonia in its various forms has proved a priceless medicine in this disease, and when combined in the solid form with extract belladonna, given two or three times a day, the most irritable and defiant cough has rapidly given way, in addition to the relief experienced by the congested lungs.

Precursory diarrhœa is best treated with oil and ammonia in one of the forms. Gastric irritation also, by relieving the bowels with this oleaginous dose. Aloes I think dangerous from its nausient and depressant effect. This form of complication is more the result of reflex nervous action.

Ophthalmic and rheumatic complications I have treated with potass. iodide and nitrate with alternating doses of acetate of ammonia when the symptoms appeared to call for its use.

Blisters, I think, are barbarous for sore throats; a poultice is preferable to blister. The poultice I use is fresh sheep's wool, an excellent poultice, is light and easily applied and kept in place. Blister often causes abscesses to form in the submaxillary glands. Anasarca will in some instances require scarification and the use of mild diuretics both internally and externally. The condition of the circulating fluid is also a question which concerns us much. Having lost its floating medium by effusion more or less into various parts of the body, we must endeavour to compensate for it by the administration of such medicines as will act with special direction in this particular. I have used potass. bicarb., soda hyposulphate and ammonia carb. with advantage, and which would be manifest with benefit a hundred-fold. The returning appetite allows of the consumption of swede-turnips, carrots, cabbages, clover, and such eatables, with hay

tea for drink: these articles containing the elements of which the sanguiferous system was utterly destitute, and particularly needed by the whole frame to ensure the life of the animal.

Transfusion in extreme cases, and the employment of the phosphates and sulphates, are courses open to our consideration.

Such is an imperfect outline of my ideas in reference to this most destructive disease; much more might have been said. Indeed, the subject is inexhaustible and concerns us much; but I have rather endeavoured to provoke thought and discussion than to be minute in descriptive detail, a course more in keeping with the objects for which we are met. Minor details of the nature, causes and treatment of influenza are purposely omitted from these propositions—debate must fill up the space.

Discussion.

Mr. J. McKENNY (Dublin), in criticising this paper, said he did not exactly agree with the lecturer in his explanation as to the origin of the disease; but expressed the opinion that, as it was contagious, there must be a microbe in it. As to the classification it must be put under one head, and that was influenza. The symptoms were not well defined. The treatment—he would blister with mustard and give salicylate of soda, and if stimulants were needed he would give whisky; under this *régime* his experience was the percentage of cures was very high.

Mr. J. FREEMAN (Dublin) contrasted the prevalence of the disease in private and contract stables, and found that the disease throve rapidly in private more so than in contract. He agreed with the last speaker as to classification, and recommended sulphate of quinine and Hollands gin as a stimulant.

Mr. E. C. WINTER (Limerick) related some cases relative to it being a contagious disease. He (Mr. E. C. Winter) being rather doubtful about it in a stable at Limerick, two horses in the middle of eleven took sick. He took the temperature of one; it was 106. That horse died in 48 hours. His opinion was that in the best kept stables it had its surest and deadliest effect.

Mr. W. NOLANS (Birr): What organs were affected?

Mr. E. C. WINTER (Limerick): All the internal organs.

Mr. J. W. NOLANS (Birr): What killed him?

Mr. E. C. WINTER (Limerick): Complications from the high state of the fever; all the internal organs were affected.

Mr. O. COLL (Limerick) pointed out that influenza was robbing the country. What he wanted to know was absent from the paper, and it was what veterinary surgeons wanted—a preventive. He expressed the opinion that whistling was the sequel to influenza.

Mr. M. J. CLEARY (Mullingar): As regards influenza the recognition of the symptoms of the disease and its contagiousness, they were nearly all agreed. As far as his experience went he did not believe in the efficacy of internal antiseptics to check the development of the disease. It always ran its course, and as the symptoms turned up he left it to the groom to treat them with good nursing. They had all to admit that contagion never responded to the use of internal antiseptics. They knew that there were varying antiseptics used in the treatment of the disease, but his opinion was that he had found no appreciable difference in the use of the many internal antiseptics that may be used in the treatment.

Mr. W. C. PATRICK (Athlone) expressed doubts as to the definitions of the symptoms of influenza. As far as his opinion went the treatment that he found very beneficial was hypo-sulphate of soda and carbonate of ammonia. He objected to blistering, using instead comfortable clothing.

Mr. C. REA (Clonmel) said in an outbreak of which he knew the horses got

nothing but gin and linseed oil, the latter in small quantities. The treatment was continued for ten days, whilst the horses were put into a good box and well clothed.

Mr. P. J. HOWARD (Ennis) remarked that influenza was a generic name for a number of diseases other than itself. As to classification, he did not see the need of it. As to treatment, he never used stimulants, and found quinine and potassium, and in later stages he would use the best foods, eggs, milk, and in some cases recourse to port wine; under this course the percentage of cures was very high.

Mr. W. A. BYRNE (Roscommon) deprecated the use of alcoholic stimulants, and stated that he had used antipyrin with the most satisfactory results for the reduction of temperature. The only objection he had was its price, which was absolutely prohibitive. He concurred with other speakers as to the necessity of locating the horse in a good comfortable loose box with plenty of warm clothing, and thought it wise in all cases of influenza to delay putting the horse to work until his convalescence was perfectly assured.

Mr. D. FULTON (Mullingar) having suitably replied, a vote of thanks was accorded to the essayist for his paper.

The proceedings then terminated.

ROYAL VETERINARY COLLEGE.

Opening of the Session.

ON Monday afternoon, October 3rd, the winter session at the Royal Veterinary College, Camden Town, was formally opened, when, in the unavoidable absence of Major-General Sir Henry Ewart, K.C.B., the Right Hon. Walter Long, President of the Board of Agriculture, occupied the chair. The lecture theatre, where the proceedings took place, was crowded with members of the veterinary profession and students. Amongst those on the platform were:—Lord Ribblesdale, Sir G. T. Brown, C.B., Dr. Crookshank, and Prof. McFadyean, the Dean of the College.

Prof. MCFADYEAN, at the outset, said: I am sorry to say we have received a letter from Sir Henry Ewart, expressing regret at his inability to take the chair on this occasion. Through, however, a circumstance which tends to make our regret, perhaps, not quite so sharp as it might otherwise have been, we happen to be honoured with the presence of the President of the Board of Agriculture, and I have very great pleasure in moving that he take the chair.

This was carried by acclamation.

The CHAIRMAN: I am sure you will all agree with me in regretting very much the absence of General Sir Henry Ewart, whose presence would have been very welcome here, and I am very conscious that I can only prove a very indifferent substitute for him; but I will endeavour to conduct the proceedings in an orderly manner and according to the programme which has been placed before me. I do not propose to trouble you with any remarks of my own at this stage of the proceedings, but immediately to call upon Prof. Shave to read us his introductory address.

Prof. E. SHAVE, who was most cordially received, began with some advice to the students, recommending them to work hard if they desired to be successful at the end of their four years' training. Let them be attentive to all the instruction they would receive at the college during the day, and then devote three or four hours each evening to quiet reading and meditation in their own room. Let them go in for some reasonable form of recreation on Saturday afternoon, and rest on Sunday. They would find this necessary after the week's work. It depended very largely upon how they spent their time at

college whether they would be a success or failure in the world. Concerning the curriculum set before them, he said it had been evolved for them and was the result of the thought and experience of generations. They must not think, then, that any part of it was superfluous or unnecessary. At the same time they must learn to think for themselves. Let them look upon their teachers as friends, and bring their difficulties to them. It would give the latter great pleasure to assist in relieving them of their burdens. Addressing those students who, before the next session opened, would be entering upon their professional career, he said that, given industry coupled with a good moral character, they were tolerably certain of making a moderately good living. It was not a profession in which there were many large money prizes, but, on the other hand, there need be no blanks. It was a profession that teemed with interest for all who loved animals, and desired to alleviate their sufferings. Be gentle and kind to your patients (continued the professor), never give them unnecessary pain; do not tolerate cruelty in any form. Having referred to the beneficent results of anæsthetics and antiseptic treatment, he urged them in all they did to seek to raise the dignity of the profession to a level with other learned callings.

Turning to subjects of interest not only to the profession but to the public, Professor Shave dilated upon the demonstrated effectiveness of Dr. Koch's tuberculin as a diagnostic agent in cases of tuberculosis in cows, quoting in this connection the successful results of Professor Bang's system in Denmark, and also quoting the statement of Professor McFadyean before the Royal Commission on Tuberculosis, that he had complete confidence in tuberculin as a diagnostic agent when used under proper conditions. "It is not a reliable test," as Professor McFadyean said, "when used on cattle in a market or slaughter-house, or on any cattle that have been shipped or trained, or otherwise excited. Using it on animals in their own premises, I have found that it is practically infallible." Professor Shave remarked as an anomaly of the law that while milk might not be adulterated with water—even pure water—it might be sold when derived from a cow with a diseased udder, and therefore contaminated. It was a fact that tubercular disease was prevalent in udders of cows in this country, and milk drawn from cows with tuberculous disease of the udder contained tubercular matter, which, if taken uncooked as food, was infectious, producing disease in men as well as in animals. It was a fact that milk containing tuberculous matter was exposed for sale and sold for human consumption; that the manifestation of tubercle in children—*tabes mesenterica*—was generally believed to be caused by the ingestion of tuberculous matter; and that this manifestation of tubercular disease is not diminished in anything like the proportion of other manifestations during the milk-drinking age, thereby pointing to milk as the cause. There was not at present any law to prevent the sale of milk containing tubercular matter likely to disseminate that disease from which, it was said, one-seventh of mankind died, and through which children suffered for years. The remedy for the evils he had pointed out was available in the use of tuberculin.

Passing to other matters Professor Shave referred, in conclusion, to the honour done the veterinary profession by the Government in making the veterinary adviser of the Board of Agriculture a knight; and he noted with pleasure, too, the distinctions bestowed upon Professor Penberthy and Mr. Trigger.

Sir G. T. BROWN, in moving a vote of thanks to Professor Shave for his address, said that gentleman had travelled over a great deal of ground, but he had, with becoming modesty, made one omission, and that omission gave him (Sir George) the opportunity of calling their attention to the great

importance of the subject which it was the duty of Professor Shave to teach. Without some knowledge, indeed without an intimate knowledge, of the structure of a piece of machinery, one would hardly attempt to repair it, and they might depend upon it that all their spare hours devoted to work in the dissecting room would prove of the utmost advantage to them in their future career. To be able to look at an animal as it stood and see plainly in the mind's eye the position of every part of its structure, would give them an amount of coolness and confidence in their operations and clinical procedure which they could acquire in no other way. The subject of anatomy had another feature that commended itself to him particularly. It was a subject of fact and not of opinion. In anatomy they used not to say "this or that is my opinion," but a bone was a bone, and a muscle was a muscle. He had had great pleasure in listening to Professor Shave's paper.

The motion was adopted *nem. con.*

Professor SHAVE thanked the assembly for the kind way in which they had received him.

Professor MCFADYEAN then read the names of those students who had been successful in obtaining prize honours in the way of medals and certificates during the last session, and remarked that the mere reading of a prize list afforded no indication as to the general success of the session. In one very important respect the past session was probably the most successful in the history of that college, that was, in respect of the number of students who were successful in gaining their diplomas or passing examinations. He had added up the figures and he found that in the July examination—the principal examination of the year—150 students presented themselves at the Royal College of Veterinary Surgeons, and of that number 110 passed—a percentage of 73 passes. When he considered that the examinations of the Royal College of Veterinary Surgeons as now conducted really constituted a very searching test, he thought the result was highly creditable, and he thought the teachers of that school might, without immodesty, claim some share of the credit of that result. But he was quite sure that all his colleagues agreed with him when he said that this gratifying result was mainly due to the unusual intelligence and diligence which the students themselves had brought to bear upon their studies. They were just at the beginning of the new session, and they all hoped that it would be as successful as the last one. He had very little doubt that if the students followed the admirable advice of Professor Shave, they would have nothing to fear at the end of the session. He (the Dean) thought the professor laid great stress upon the importance of punctuality, and he took that opportunity of calling the students' attention to the fact that the session seriously began on the morrow. All the lectures and divisions of classes for practical instruction would virtually begin on the morrow, as the time-table showed.

Dr. CROOKSHANK, in moving a vote of thanks to the chairman, said if they were agriculturists, or landowners, or veterinary surgeons, they all knew how intimately agriculture was associated with the veterinary profession. He ventured to say that no Minister of Agriculture who had ever held that post had done more, or wished to do more for the prosperity of agriculture in this country than Mr. Long. And they knew that the prosperity of the farmer must necessarily tend to the prosperity of the veterinary surgeon. He often thought that in these days, when they heard so much of inoculation and of tuberculin, and of those subjects about which it was not for him to say anything, that they were liable to overlook one of the greatest of the advances of the present century that was initiated entirely by the veterinary profession. They were apt to overlook the great work that was carried out against very formidable opposition, in adopting the principles that were commonly known under the heading of "Stamping out animal plagues." Now,

this work of stamping out epidemics in animals began with the cattle plague of 1865, and was carried out by the veterinary profession. In this respect the veterinary profession was a long way ahead of the medical profession, because those principles embodied in the methods of stamping out animal plagues, methods of disinfection and of isolation, and of slaughter, were subsequently adopted by the medical profession, short, of course, of slaughter. In a modified way they had been adopted by the medical profession. He did not think that the work of the veterinary profession in initiating methods of stamping out animal plagues had ever been sufficiently appreciated by the general public. They welcomed Mr. Long that day, for, among many other reasons, the loyal way in which he had adopted those methods regarded by the veterinary surgeons as the best means for stamping out animal plagues. He (Dr. Crookshank) imagined that he saw a little look of depression on the faces of some pathologists when Mr. Long entered that room, and he could only explain that on the ground that he had been so successful in exterminating and keeping out of the country so many of the animal plagues that pathologists were deprived of a good deal of material for research. There was one more reason which he would mention which made them all give a very hearty welcome to Mr. Long that day. Whether they were governors of that college or members of the staff, or students, he was sure they must all appreciate this fact, that the circumstance of a cabinet minister deeming it worth while to attend the introductory lecture of their session, and to take the chair in the absence of another gentleman, was a gratifying evidence of his recognition of the great work that was being carried out in that school. He (Dr. Crookshank) was bound to say as a governor—and he thought his view was shared by his colleagues—that the work effected in that college was not sufficiently appreciated by the public. Having regard to the fact that a leading public man was willing to come down and join them in the opening of their session, it was a just recognition for which they were deeply grateful.

The motion having been carried by acclamation,

The CHAIRMAN said: My Lord, Mr. Dean, and gentlemen,—I am very much obliged to the proposer of this resolution for the kindly terms in which he introduced it to you, and I am grateful to you for your warm reception of the proposition. I am quite ready to accept what he has laid down, namely, that my presence here to-day is to be regarded as a proof of the interest taken by the outside world in your great profession and in this great college. I say this because I am confident that it is a simple fact that the interest taken in the work of your profession, and in the methods in which students of your profession are being prepared for their future active life, has been largely growing owing to the increased importance which people outside attach to the veterinarian's art. I listened with the greatest possible gratification and interest to the introductory address of Professor Shave, and I am very glad indeed, if I may be allowed to say so, that he selected for the main portion of his address this very interesting and important question of the elimination and, possibly, the stamping out of tuberculosis. I believe that the veterinary profession can aid a very great deal to forward this movement, apart from any action which it may be necessary for the Government to take. All that the Royal Commission on Tuberculosis recommended the Government should do was, in the first instance, to provide the tuberculin at a comparatively small cost, and, in the second place, to pay a fee in order to secure that a properly qualified veterinary surgeon should carry out the operations. Well, gentlemen, the Royal Commission estimate that the cost of tuberculin should be about threepence per dose, and the cost of the individual application of the test would be about 2s. 3d. or 2s. 6d., I think, altogether in each case. Well, I do not want in any way to seek to evade the responsibility which must always rest upon the executive Government in matters of this

kind. I have said elsewhere what I am prepared to repeat here, namely, if I can only be satisfied that there is a general desire to make use of these opportunities, there certainly will not be any unwillingness on my part in approaching the Treasury to obtain the necessary consent to the expenditure. But I should like to impress this upon you—some of you who are now moving actively in the world and others who are preparing to do so—that if a remedy of this kind is as effective as science now tells us it is, surely it can hardly be necessary for the Government to step in with a payment of 2s. 3d. or 2s. 6d. per cow, in order to induce owners of horned stock in this country to take advantage of so beneficent a discovery. The real truth is that those men who have got the knowledge which is of such immense value —the accurate, scientific knowledge which enables them to see not only the remedy, but to give the reason for the faith that is in them—do not make a sufficient use of the opportunities daily presented to them to enthuse their neighbours and the public generally with their own confidence and their own belief; and I am sure, if you accept the advice given you by Professor Shave, and do your best to make these facts known, that then the public will take greater interest in such discoveries. I think, perhaps, that the discovery with regard to tuberculin may not unfairly be described as one of the most important that has ever been made, because if it is carried out, and success continues to attend these operations, not only shall we eradicate that disease which has especially caused great loss to owners of stock in the country, but scientists tell us—and the news is welcome indeed—that simultaneously with the eradication of disease amongst cattle, will come the eradication of that terrible disease—consumption—amongst human beings, a disease that has brought sorrow to so many homes, and was so long regarded as incurable and unpreventable.

Therefore, we have a double object to work for. I am not going to trespass much upon your time. It gives me great pleasure to be here, and I wish you all success and prosperity. I regret the circumstances that made it necessary for me to fill the chair. We should all have been glad if Sir Henry Ewart had been able to be present. I shall be glad, as long as I occupy the position in the Government I do now, and afterwards in my private capacity, to give proof of the interest I take in the great profession to which so many of you belong and others are about to belong. If I may add one word to the wise words spoken already by Professor Shave, I would say this: that I believe there is nothing more important to members of the veterinary profession when starting upon their careers than that they should make up their minds to do everything in their power to raise and maintain the standard of their profession throughout the country. Great strides have already been made, but there yet remains room for improvement in some respects. I know how hard the battle is which a professional man has to wage when he occupies the dual position of adviser to clients on the one hand, and on the other hand some public position which forces upon him the unpleasant alternative of either discharging his public duty and thus offending his customer and losing his patronage, or failing to fulfil his public duty and thus retaining his private client. I would respectfully say to members of the veterinary profession, present and future, that they would do well in their own interests, and in the interests of the great profession to which they belong, or hope to belong, if they will do their utmost to win in this struggle, and always to put the great public interest before individual private advantage, however immediately embarrassing this may seem to be. If they succeed in doing that they will do more, I think, to raise and elevate the standard of the profession than by any other means. I thank you for the manner in which you have received me this afternoon.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

THE autumn meeting was held at the Royal Assembly Rooms, Great Yarmouth, on Monday, September 22nd, under the presidency of Mr. James K. Gooch, Holt. The other members present were: Professor N. Almond, Chelmsford; Messrs. J. D. Overed, Blofield; Sidney Smith, Lowestoft; W. Shipley, senior and junior, Yarmouth; R. Howard, Thetford; C. Clarke, Reepham; J. Pollock, Norwich; P. Turner, Ixworth; T. E. Auger, Wymondham; W. Turtill, Wickham Market; F. M. Wallis, Halstead; W. M. Reeman, Bury St. Edmunds; A. S. Auger, Saxmundham; Veterinary-Lieut. Larnder, Colchester; and the hon. sec., F. B. O. Taylor, Weston; and as visitors, Messrs. Parker and W. H. Gooch.

Letters, regretting the inability of the writers to attend, were received from Professor J. McFadyean, Sir Henry Simpson, Professor Hobday, Messrs. E. Faulkner, Jas. Cleveland, W. Westgate, H. L. Roberts, Wm. Bower, C. C. Nestling, W. Wragg, J. E. Kitchen, E. Margarson, and T. G. Heatley.

New Members.

Mr. G. H. Martin, of Witham, Vet.-Lieut. Larnder, of Colchester, and Mr. T. W. Rogers, of Saffron Walden, were elected members of the society. No fresh nominations were tendered.

International Congress at Baden-Baden.

The HON. SECRETARY read a letter from Mr. Cope, veterinary officer to the Board of Agriculture, directing the attention of the society to the International Veterinary Congress to be held at Baden-Baden in 1899. The individual subscription was stated to be 12s.

Mr. W. SHIPLEY, jun., proposed that the president should become a member and subscribe to the congress on the society's behalf. Their principal object in doing this would be to obtain copies of the reports of all the papers, lectures, and discussions, that might be given and held.

Professor ALMOND seconded, at the same time observing that other members of the society could of course become members of the congress on their own initiative. The meeting assented.

Next Meeting.

Mr. SIDNEY SMITH proposed that the next meeting, which will probably take place in February, 1899, be held at Norwich. Mr. T. E. AUGER seconded.

Mr. HOWARD said he had been asked to invite them to hold their next meeting at Diss, but he agreed that it would be best to hold the winter meeting at Norwich, which was so central and easy of access from all parts. Probably they could go to Diss next spring.

Norwich was unanimously selected as the next meeting place.

The Late Mr. Dalby.

The CHAIRMAN made sympathetic reference to the death of one of their members, the late Mr. Dalby, and moved that a letter of condolence be sent to his widow as a mark of their respectful sympathy with her in her sad bereavement. Mr. Dalby, he said, was well known to all of them, and his early demise was a matter of regret not only to his profession but especially to the inhabitants of the place in which he lived. He was cut off in the prime of life, and his loss was a source of grief to all who knew him.

Mr. A. S. AUGER seconded, and the meeting assented.

Pathological Specimens.

Mr. SHIPLEY, jun., produced a bottle containing a portion of the tongue of a horse, with the following interesting explanation. On Monday, the 19th inst., he said, he was sent for to look at a mare. When he arrived she was at the point of death. On opening her mouth, he found it full of evil-smelling fluid, whilst the skin was peeling off the tongue. He could not understand the case at all. The animal's temperature was about 106, and he suspected some kind of septic poisoning. He would not have attached much importance to it, but in the evening three more horses belonging to a second farm were attacked in a similar way. He found them with their tongues protruding, and their mouths very sore, as though from burning. Their temperature was about 102 or 103—nothing out of the ordinary—but they were undoubtedly very sick and bad. They were stabled only 100 yards away from the first patient, and none of them were then at work, though all the other horses on two farms were out. They were eating hay, pollard, and crushed maize, and though he suspected something must be wrong with the food, he could find nothing to confirm those suspicions. The first horse died, and he made a *post-mortem*. He found the stomach healthy and full of food, but with a deal of thickening about one part of the stomach, and the small intestines were full of bloody fluid. He cut off the portion of tongue produced, and expressed the opinion that these animals had had some corrosive acid—probably sulphuric acid. It was difficult to state the nature of the poisoning, or even to suggest such a thing, but it looked very much as though that was the cause of the illness. The other three horses had all lost the coatings of their tongues, but otherwise were getting on well.

Replying to a running fire of questions, Mr. SHIPLEY said he could think of nothing else but sulphuric acid that would produce the effect he had described. He had sent the contents and a portion of the stomach away for analysis, but had not yet heard the result. The mare was quite well at 8 p.m. on the Sunday evening. She became suddenly ill half an hour later, but he was not called until the following morning, and she died at 10.30 a.m. The digestive portion of the stomach was slightly discoloured red, but the other parts were beautifully white. The lower lip had the appearance of being burned. The lips of two of the three colts were burned, and covered with little round swellings, and the mucous membrane inside was burned away. The owner of the horses had no reason to suspect foul play, and, indeed, laughed at the suggestion of such a thing.

Mr. A. S. AUGER suggested that mayweed was productive of the symptoms described. It was hardly likely to have been sulphuric acid.

Mr. SHIPLEY: The animals were being fed solely on hay, pollard, and crushed maize. The mare that died was 15 or 16 years old, but the other three were merely colts.

Professor ALMOND suggested that it would be well to postpone the discussion until Mr. Shipley received the results of the analysis. He, for one, should await that result with great interest. The tongue did not appear to him to have been affected by acid—but it might be so. There were a few isolated spots, but the skin all round was perfectly healthy.

The discussion was then postponed as suggested.

Mr. SHIPLEY also produced part of the larynx of a "roarer"—one of the worst he ever saw, he said—showing complete atrophy of the muscles, together with a specimen of ulcerated œsophagus.

The HON. SECRETARY then described a curious and unique growth in the

body of a fine red poll bull, owned by the late Mr. J. J. Colman, and valued at more than £300. He was called to attend the bull, he said, a few weeks ago, it having suddenly fallen off his feed. At first he thought it had merely taken a slight cold, as the temperature was 102, and the pulse 72. Its condition scarcely varied for a month, which was the duration of its illness, it would touch very little food of any kind. From its looks one would have thought little was amiss with it, but showed occasional symptoms of pain. On opening the body he found a huge strange growth—a kind of solid mass of fat—completely surrounding the bowels. The fat had so compressed the bowels that they would scarcely admit a cedar pencil. He produced a portion of the growth, and said he had forwarded another portion to Professor McFadyean, who assured him it was almost unique, he being able to remember only two other records of a similar nature.

Professor ALMOND observed that the mystery of both the specimens—the growth, and the burnt tongue shown by Mr. Shipley—was equally great. The case described by the hon. secretary was to him perfectly unique, and, on his motion both gentlemen were heartily thanked for their interesting specimens.

Veterinary Obstetrics.

The rest of the afternoon was devoted to a discussion on the paper on "Veterinary Obstetrics," read by Mr. J. Pollock at the previous meeting at Norwich.

Mr. SIDNEY SMITH, in opening the discussion, said he agreed with Mr. Pollock what he considered to be the essentials of a good obstetric surgeon, viz., manipulative dexterity, sound judgment (or, in other words, common sense), and good muscle. Of all the new instruments Mr. Pollock had brought before their notice, he considered the steel spring band to be the most useful. It could be used in every case where they found it necessary to pass a cord. They often met with cases in which it was necessary to pass a cord. They often met with cases in which it was necessary to get the cord round a particular part, and this band would be excellent for that purpose. A veterinary surgeon was seldom called to a natural presentation at which the farmer, or his son, or the stockman, had not had a try first. He once happened to call at a farm just as a heifer was calving. He found a shorthorn heifer, very fat, with breech presentation. All the parts were so swollen that there was great difficulty in introducing the arm at all. He found he could not remove the calf—perhaps some of Mr. Pollock's instruments would have removed it—and his advice to the farmer was to have the heifer slaughtered at once. In this case of course he did not have a fair chance, because the men at the farm had been trying, and their efforts had swollen the parts to an extraordinary extent. Referring to the other instruments, Mr. Smith said he could not see that the large ecraseurs (Nos. 2 and 3) would be very effective, though he liked the look of the obstetrical harpoon and guillotine. Yet he doubted whether these instruments could be used with the ease Mr. Pollock represented. With the parts much swollen, there would be little room for the introduction of instruments of such size. One difficulty in the way of using the instruments was the fact that a veterinary surgeon met with some difficult cases when out on his country rounds. Instruments of that size could not well be carried about in a trap, and the facilities of railway and telegraph seldom lay handy, so when they did happen to want the instruments, they would often be unable to have them.

The CHAIRMAN said there could be no doubt that obstetric cases were the worst they had to deal with, anyone who could do anything to facilitate the operator's work conferred a great benefit upon their profession. Mr. Pollock was certainly one of those benefactors, for he had introduced instruments which were

perfectly new, and suggested some new methods of operating. It was almost too early to speak of the utility of the instruments, for they had not yet been given a practical test. He did not know whether Mr. Pollock had used them himself, but from what he could see he should judge that some would prove to be of the utmost service. The only fault he had to find with them was that they were too cumbersome. Their instruments must be as strong, yet as light as possible. If they were to use instruments of the size brought forward by Mr. Pollock, operators would need the services of a qualified assistant, for they would make a bad hand of them with the assistance of the cowman alone. Then the success of a delivery did not always depend upon the instruments. Recently he met with three cases which gave him much trouble. On introducing the hand he could not possibly dilate the mouth of the uterus. A cow that had had three or four calves previously had been straining fo. a day, and the herdman was unable to feel the calf at all. He (the speaker) could only introduce three fingers into the mouth of the uterus, around which a tight constricting band had been formed. He parted the band, and managed to extract the fœtus. After three or four hours' hard work he delivered the cow, and she made a good recovery. That was a case in which the harpoon would have been of great service to him, for he might have passed it through the ribs and brought the calf nearer his fingers. No. 7 in Mr. Pollock's list of presentations presented all the extremities in the passage, but he disagreed with Mr. Pollock's method of operating. It had always been his practice in those cases to secure the hind limbs and return the fore part, and he had delivered eight or ten cases in that way without mishap. By putting back the head and fore legs, and applying traction to the hind legs, an easy delivery might be effected.

Professor ALMOND observed that some of the instruments displayed were remarkable for their simplicity, and others were quite as complex. The simpler instruments would, he believed, turn out to be of greater use than all the rest put together. The spring band was a revelation to the profession, and would, he believed, convert into comparatively simple deliveries those which, under ordinary circumstances, took hours to overcome. Referring to breech presentation, the speaker related an amusing but disquieting experience which happened to him soon after he began to practise. It was not by any means impossible for a cow to be delivered when the calf was presented breech first, with the hind legs forward and the tail presenting. In the case in question he found a cow with breech presentation. The owner's wife told him that her husband wished the animal to be killed if there was any difficulty in the case. It turned out to be a very difficult case, and eventually he undertook to send a butcher to kill the cow. He did not wait, and was very disgusted at what he heard afterwards. When the butcher got there he found the calf had advanced a considerable distance into the pelvis. Being an experienced man he thought he might deliver the cow after all—and he did deliver her. It happened to be a twin calf, and both calves were delivered alive, and the mother lived—without his knowing anything about it for several days! That just shows that one must not be too ready to give up cases without making a great effort to deliver. He remembered a case being delivered on one occasion with one leg back. Mr. Pollock referred to that as being practically impossible. It was of course very rare, and only occurred when the fœtus was small and the animal very roomy. But it was not unusual in the case of sheep and pigs. In fact, they seem to think they could be delivered in any form they liked! He agreed with Mr. Pollock's presentation No. 7. It was easier to convert it into a posterior presentation, because it would be impossible to force the hind legs out of the pelvis, and there would be the danger of the hind legs remaining in the pelvis and giving no end of trouble. With regard to undilatable os, the speaker referred to the

case of a heifer which he saw when she had been in pain twenty-four hours, and was at full time. He could only introduce one or two fingers into the mouth of the womb. The animal was perfectly healthy, eating, drinking, and chewing her cud, and although disturbances came on from time to time, they were not very bad. There was simply uneasiness, and she remained in that condition three days. Eventually she had a natural delivery on the fourth day, and did well. He believed these natural deliveries would be more frequent, particularly with heifers, if more time were given, although practitioners could not always be running backwards and forwards to watch the progress of an interesting case. One question of prime importance in obstetrics was that of irrigation. He thought irrigation ought to be used more commonly, though, of course, the profession still lacked instruments by which the uterus could be thoroughly washed out. It was necessary not only to inject a large quantity of antiseptic into the uterus, but also to remove every drop after it had done its work. The uterus ought to be washed out after being treated with antiseptic, or else absorption of the latter fluid would cause disturbances. It was still open to someone to invent a system by which they could irrigate thoroughly, and remove the antiseptic after it had been injected. With regard to the removal of the fœtal membranes in a cow, it was better to leave the whole than a small part, which might putrefy. It was extremely disagreeable to remove after it had been retained for three or four days, but if the uterus could be thoroughly irrigated it would be better.

Mr. WALLIS agreed that the band was the most useful instrument, and said he had been wanting it for years. Of the others he recommended No. 4, and in referring to its uses, mentioned a curious case he attended last foaling season. A friend of his sent for him after he had been working hard at the case for several hours. It was impossible to effect delivery alive, and so he proceeded to take off the foal's forelegs. He applied traction to the head, but still could not get it. Then he felt something that fluctuated in his hand like a bag of fluid. Making sure that it belonged to the foal he pierced the obstruction and immediately the foal was delivered. Then he found that a serous cyst halfway down the neck had given all the trouble. When the traction was applied it of course bulged out, and formed an effectual barrier to delivery.

Mr. A. S. AUGER agreed that the instruments were good, but said the difficulty would be to have them always with one when one wanted them. He met with his worst cases when driving round the country, and he should not care to take such heavy instruments about with him. At present he felt equal to tackling anything with nothing more than his castrating knife and the swivel hook he had used for 15 years. He described a singular case of foaling in which the mare was delivered during the night, the foal being produced with the hind legs so tightly flexed that it was impossible to draw them out to the extent of half an inch. Concerning irrigation, he said he had often been requested not to irrigate when about to do so, some of his clients believing it best to leave the cleansing to nature. But as a rule he believed irrigation was desirable. He generally left the removal of the fœtal membranes of a cow to nature. He had known them to be left a fortnight without doing any harm.

Mr. SHIPLEY said that although it would be impossible to use some of the instruments without help, he believed several would be of great use. Like Mr. Wallis, he had been waiting for that steel band all his life. Referring to the presentation when all four feet were presented, he said he thought it was best to remove the limbs at the shoulder and make a breech presentation of it at once. It was difficult to put the fore legs or hind legs back in such cases. Now and again, he observed, they heard of cases of monstrosities and malformation in the fœtus, and the removal was generally impossible.

Mr. OVERED said Mr. Pollock had not illustrated one presentation which they often encountered. That was a most difficult one—with the head and two fore legs and one of the hind feet presenting in the passage. He came upon two cases of the kind last year on two separate farms. In one case he took off the two fore legs, and managed to get the foal away, but the mare died. In the other case, she was dying when he saw her, so nothing at all was done. Such cases were more difficult than those presenting the fore feet in the passage. Where the fore feet were presented it was best to remove them, and then the two hind legs could be reached and the foal delivered by means of pulleys, without much trouble. With regard to the bands sometimes found at the neck of the womb, those were difficult cases. He mentioned the case of a cow which was in labour and straining for three days. So closely was the neck of the womb drawn that he could not pass three fingers in. But on parting the ring he managed to abstract the calf, and the cow did well.

Mr. SHIPLEY, jun., spoke in a more critical strain of Mr. Pollock's instruments. He ordered some of the steel bands, and found on account of the strength of the spring they were useless. He was showing one to a friend, when it broke in halves in his hand. If it had broken when in use the consequences might have been very serious. He was pleased that they were now being made stronger. The ear forceps were very pretty instruments, but he questioned their utility. The difficult fœtus with which they had to deal were the dead ones, which had undergone more or less decomposition. His impression was that if one managed to get the forceps on one, it would slip off again almost immediately. With regard to presentations, he thought Mr. Pollock might have laid more stress upon securing those portions which had to be amputated inside the uterus. He had had many cases of twisted uterus, but had never encountered a case in which there was a distinct tight ring round the mouth. He had generally found that if one was careful to exercise pressure on one limb or the other, taking care to guide the fœtus with the arm, the uterus would right itself. With regard to irrigation, he said he thought it was the general practice to remove the fœtid membrane, but it was dangerous to pump antiseptics into the womb. They did as much harm as good. It was easy to pump them into the womb, but it was difficult to get them all out, and the fluid often set up inflammation. He had never known the fœtal membrane do any harm by being left alone. He was sometimes compelled to take it away to oblige his clients, but he did not always believe it desirable to remove it. Even by introducing the hand into the womb, one was liable to introduce the very septic organism that one was anxious to keep out. As to hurry in delivering the fœtus, Mr. Shipley observed that a busy practitioner had to effect the delivery when he was called. He could not be expected to wait about for 10 or 12 hours.

The HON. SECRETARY (Mr. Taylor) said that it had been his practice to remove the fœtal membrane from cows if nature did not do so within four or five days. If he did not remove it and the cow died, he should attribute the death to his neglect, and his clients would not be very well satisfied. He made it a rule to irrigate the womb with chinosol, using 30 grains to about half a gallon of warm water.

Mr. TURTILL said that a few years ago he had an outbreak of abortion in a large dairy of cows. The fœtal membranes were retained, but several cases of septic poisoning resulted, and afterwards he was always careful to try and remove them. He believed in irrigation, and generally used a weak solution of Condy's fluid.

Mr. T. E. AUGER referred to the difficulty of carrying the instruments about with him. He could not afford to keep them by him, and if he was called up

in the night it would be impossible to telegraph for them. They were, however, merely in their embryo stage, and would, he believed, be most valuable when they came into general use.

Mr. POLLOCK then replied at length, pointing out that all the instruments exhibited were not required by one practitioner, as several were shown in duplicate. The two large ecraseurs were really too strong; in future they would not be made so large, the strength required being over-estimated. The third ecraseur shown was much smaller, and with one or two minor improvements wrought upon it, the profession would find that it would do its work without the slightest difficulty. Having been asked the price of a complete set of the instruments, he stated they would cost from £18 to £20. The ecraseur would probably be got for something like five guineas. The guillotine and embryotome he regarded as useful instruments and likely to be popular. Mr. Pollock expressed his pleasure at the frank and fair way in which his paper had been discussed. Referring to Mr. Smith's remark when he said that "he doubted whether the ecraseur could be used when the parts were much swollen," Mr. Pollock said he thought the early use of the instruments would prevent such prolonged manipulation leading to injury of the parts. He asked that the ecraseur might have a fair trial, and not be used only when parts were swollen and other injuries done. As to the size of ecraseur, he did not see why it could not be freely used, as it was less than 1-5th of the operator's arm in size; when once placed, the operator's arm would not be in the canal at the same time. He felt positive that the ecraseur would do what they had wished for years past that an instrument might be able to do. He was pleased to note that our president had come across a case in which he thought the harpoon would have proved successful. In regard to Mr. Gooch's remarks as to mode of operating in figure 7, he desired to point out that three methods of operating had been suggested, and judgment was required to choose which would be best. Professor Almond, in speaking of the instruments, had pointed out that they were both simple and complex. Like him, Mr. Pollock said he had often found the simplest instruments the most useful. But he pointed out that in his paper he is dealing with difficult cases, for which the instruments up to the present at the disposal of the profession have been quite inadequate.

Dwelling on the interesting subject of irrigation, Mr. Pollock said that in all cases where delivery was difficult, and when the operation had to be performed in imperfect sanitary surroundings, he advised removal of the placental membrane at once. He thought it extremely bad practice to leave placenta in a mare after operating, and he suggested its removal in cows also after any difficult operation. In dealing with retention of membrane after natural birth, we ought to decide in our minds as to the cause of this retention. If due to simple weakness or a chill, he should not advise removal, but give constitutional treatment. On the other hand, if one case of retention is followed quickly by many others, there is sure to be some septic matter or specific organism at work setting up metritis, and he believed that this was spread from cow to cow principally by the attendants who assisted. In all such cases he advised thorough irrigation, proper sanitary measures, and change of attendants for a time. This was most important. As to the antiseptic to be used, lysol was advocated by the higest authority as the best agent.

He then referred to the remarks by Mr. Shipley respecting the broken spring. He said it was possible the spring might have been badly tempered or had a crack in it. He assured the members that there need be no fear of springs breaking, as they can be so tempered and tested that each one sent out can be thoroughly guaranteed. In the near future the springs will be

made of much narrower steel, and also of flat, round, and oval material as found most suitable. Mr. Shipley had made several strong remarks about not drawing special attention to the parts about to be cut off and securing them. Mr. Pollock said had he been lecturing to a class of students he would have been most careful on that point, but addressing a number of professional gentlemen he desired not to overburden his paper with details with which they were all familiar. Mr. Shipley had mentioned a case in which the operator lost a part or head of calf when cut off. Mr. Pollock was inclined to think it was the operator who had lost his head in that particular case. As to the ear instruments losing their hold, no fear need be entertained on that score.

In conclusion, Mr. POLLOCK said that if by the invention of these instruments he had interested the profession, stimulated others to think more deeply, lessened the sufferings of the animals which came under their care, he had achieved something he had been longing to do for years.

Mr. SHIPLEY, senior, in expressing the thanks of the meeting to Mr. Pollock, observed that he had done more for the profession than any other member of the society had ever attempted.

Mr. POLLOCK, in acknowledging the compliment, said he hoped some one else would do something more useful before long. They had left this difficult subject alone long enough, but, having once set the ball rolling, they ought to go on kicking it. If veterinary surgeons went prepared for difficult obstetrical cases and treated them in a scientific surgical way they would please clients, prevent much unnecessary suffering, gain credit for themselves, and lift their profession considerably in the estimation of the public.

On account of the lateness of the hour it was resolved to postpone the discussion of Professor Nicholson Almond's paper on "Pasteur's Life and Work" until the next meeting.

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

AT a meeting held on the 28th October, the following paper was read by MCLAUCHLAN YOUNG, Esq., F.R.C.V.S., on

PRACTICAL HYGIENE.

"Prevention is better than cure," and I offer this old saying as my reason for introducing for discussion this day the subject of hygiene.

The subject is undoubtedly one of national importance, although perhaps it appeals more to the professional than to the lay mind. I am conscious of my inability to do it adequate justice, and I would ask you when criticising my effort to "be to her faults a little blind, be to her virtues very kind."

It must not be supposed that hygiene is a modern study, for from very early times astute and learned men like Herodicus, Hippocrates, and Gallen endeavoured to formulate what might be termed laws of health, and that they did so with a measure of success is shown by the fact that Herodicus was censured by Plato for keeping alive persons with crazy constitutions. The first principle of modern hygiene, however, is to so regulate the habits and environments of an existing generation that the succeeding one may be born possessing a sound constitution, and by the practice of hygiene be enabled to so maintain it.

The word itself is a derivative of Hygeia, in ancient mythology the goddess of health, and literally means health. This, then, is the foundation of the science, and that it is comprehensive enough to satisfy the most exacting, is seen from the definition given by Dr. Parkes, who by his masterly exposition of hygiene became a national benefactor. He says: "Hygiene is the art of

preserving health ; that is, of obtaining the most perfect action of body and mind during as long a period as is consistent with the laws of life. In other words, it aims at rendering growth more perfect, decay less rapid, life more vigorous and death more remote." He goes further, and says: "If we had a perfect knowledge of the laws of life and could practically apply this knowledge in a perfect system of hygienic rules, disease would be impossible." Here, then, is the formula for the golden elixir, but the dispensing exists only in the wildest flights of imagination.

A clear appreciation of Dr. Parkes' definition enables one to realise that it is a science of vast importance to the human race, and the many instances occurring in the daily practice of medical men and veterinary surgeons, where the adoption of hygienic rules has led to the gradual reduction or the total eradication of certain diseases, show the wisdom of teaching so much preventive medicine and hygiene at our schools and colleges.

The old farrier with his fleams and blood stick, his physic and humours, has given place to the veterinary surgeon, with rational ideas as to the cause and treatment of disease. But the old farrier was none the less necessary, for, although in his day he did much for the stock-owners, in many cases he showed the necessity of a more enlightened school of veterinary medicine. By the granting of a diploma by the Highland and Agricultural Society of Scotland and by the founding of the Royal College of Veterinary Surgeons, such a school became a reality, and now we have teachers at our colleges, and practitioners throughout the world, who are scientifically the equals of the members of that sister profession—the medical—which was once so far ahead of us.

In both professions there is a science, which by reason of its importance and manifest success, is evoking more and more interest, and which, I venture to say, is certain to take premier place in the curriculum of either branch of study. This science is now being called State Medicine, or in its wider sense, Hygiene.

The old farrier endeavoured to remove the effect without enquiring as to the cause. Now we remove the cause and then assist Nature to throw off the effect.

State medicine or hygiene aims at the total removal of the cause, and thereby preventing the effect. For this reason the term Preventive Medicine is often used.

The science is founded upon physiology, although a knowledge of anatomy, bacteriology, chemistry, engineering, and many other sciences is necessary for successful practical application.

The use of the microscope has added greatly to our knowledge, and done much to make the science a possibility, for it has revealed the cause of many diseases. We now know that the bacillus anthracis, if introduced into the body, produces anthrax, the bacillus mallei—glanders, the bacillus tuberculosis—tuberculosis, and so on, and that on *post-mortem* examination the presence of any of these organisms is pathognomonic of the particular disease. For the disease to become established, it is required that the organisms propagate and in many cases give rise to ptomaines. To insure this it is necessary that suitable media be found in and upon which they may flourish and proliferate. In the body such media are found in the various animal tissues, and the rendering of these tissues suitable for bacterial growth consists of a lowering of their vitality. Thus the organism is the actual cause, and the lowering of tissue vitality the predisposing cause.

Veterinary hygiene includes—

I. Taking care that the animal is not exposed to the actual cause.

II. Endeavouring by good housing, feeding, watering, and general management to maintain the tissues in a healthy, vigorous condition, and prevent the loss of vitality.

III. If the tissues are weak and impaired, to strengthen them by suitable diet and sanitary environments, and thus increase their resisting power.

The first is perhaps the most difficult, because the actual cause of many diseases has not as yet been demonstrated, and even although known is so microscopic, so tenacious of life, so ubiquitous that it is well nigh impossible to prevent its presence, and it is only by the heroic efforts of nature's own hygienic factors—the leucocytes—that disease is not rampant. But let us consider in what way an animal is exposed to these organisms. It is clearly understood that these disease producing germs do not come into existence of their own accord, so to speak, but that they, like the higher forms of life, owe their origin to parent. The spontaneous origin theory, although once held, is now obsolete. Where, then, do they come from? I do not pretend to be able to answer, but of this I am certain, that they have been transmitted from—shall I say—host to host through some medium or by actual contact.

Take anthrax. Are the spores or bacilli not conveyed to the animal by the food? Are the spores not carried by rats, mice, or flies? Are they not brought to the surface by worms from a buried carcase? Are they not inhaled, through the medium of the air, by wool sorters?

As the law reads at present I admit it is difficult to prevent a case of anthrax, but when an outbreak has occurred and thus the presence of the actual cause made known, then all communication with what might be termed the affected area and the outside world must be rigorously suspended until the carcases have been disposed of and the place thoroughly disinfected. It is known that the bacillus is incapable of forming spores within the body, but if it can make its way into the saliva or excrement and be discharged, spores may readily be formed, so that an affected animal must remain a source of infection.

To rid the premises of this centre of infection it is necessary to burn the carcase, for to bury it is not satisfactory, as we know that worms can and do bring the spores to the surface again. Those who advocate this mode of disposal, take for their basis that the bacillus cannot form spores when oxygen is absent, and that it cannot exist where the temperature is below 12° C., and state that these conditions are found at a depth of six or seven feet. This I cannot agree with, as oxygen is not always absent and the temperature not always below 12° C. at that depth. Cremation is the only effectual, and certainly the most scientific, way of destroying all such carcases. All discharges or blood remaining where the animal died or was killed must be thoroughly saturated with a 5 per cent. solution of carbolic acid. To disinfect the buildings, a spray of hot water containing carbolic acid or corrosive sublimate seems to be the most effectual. All the woodwork must be washed with hot water and soap, and this process repeated within a week, and, as a further precaution, the whole building fumigated with chlorine. This can be easily done by mixing together equal parts of common salt and black oxide of manganese, and adding twice as much vitriol and water. As the fumes given off are heavier than the atmosphere, the vessel containing the mixture should be placed high up.

Glanders.—At one time—not so very long ago—this dreaded disease was common throughout the country, and especially so in large cities. It was looked upon as incurable, and how, then, has it almost totally disappeared? Curiously enough, it was associated with dark, badly ventilated, often underground stables, and with the disappearance of this kind of stabling, the

disease is gradually becoming one to be read about, but seldom seen. This, then, is but one of the many successes of hygiene.

By the use of mallein we can test the animals, and should a reaction be the result of the injection, the affected are killed and compensation paid to the owner. The carcase ought to be cremated—although this is not so necessary as in anthrax—and the stable fittings disinfected.

Tuberculosis.—Perhaps it has occurred to many of you—as it has often to me—that although this disease has, of recent years, been more studied and discussed than any other, so little is being done to check its ravages, and it still is the scourge of the bovine species.

Even in the human family, where much might be done, there does not seem to be put forth the efforts the death rate demands, but it is more culpable in our profession, for we can enforce rules for isolation—or even slaughter—which could not be carried out in medical practice.

It is well known to be an infectious disease, *i.e.*, spreads through the medium of the atmosphere, and if we allow an animal to inhale the contaminated breath of another, we are not carrying out the fundamental principle of hygiene—taking care that the animal is not exposed to the actual cause. Again, we know that it is conveyed by milk, and if we allow a calf to draw milk from a cow having a tuberculous udder, we certainly expose that calf to the actual cause.

A few years ago it was impossible to tell when we had an affected animal contaminating the atmosphere, but now, by the use of tuberculin, that difficulty has been removed.

The use of tuberculin, isolation, and even slaughter if necessary, seems easy enough, but it is not taken advantage of, and tuberculosis remains, claiming as its victims at least 25 per cent. of the bovine race.

Although stockowners know all this, they do little or nothing, but look forward to the time when some generous Government will pay compensation for all animals found affected.

They forget that while waiting on the Government they are allowing the disease to become more prevalent, and it seems to me that they also forget that other trades have risks as great, but the traders, instead of waiting for the Government to do something, have done and are doing what they can to prevent these risks.

If such rapidly perishable goods as fish or fruit go wrong in the hands of the trader, does he ever expect any compensation? If a whole crop of potatoes becomes diseased, or a field of turnips is eaten by the fly, does the farmer expect compensation? No, the dealer in fish or fruit, and the farmer who grows potatoes and turnips, take every known precaution to prevent their wares going wrong while in their possession; but if they bought them in such condition, and it could be proved that they had no means of foretelling this, then they would be entitled to compensation.

Do stockowners take every known precaution to prevent their wares going wrong in their possession? Emphatically *No*. But then they have the old-fashioned notion that tuberculosis is hereditary, and consequently it is useless trying to prevent it. Now it has been proved that it is not hereditary, but that it is spread by infection. The non-hereditary nature has only been recently proved, and perhaps many members of the profession—especially the older—are not prepared to accept it as truth, but I am disappointed to read in our professional papers that some of our teachers still hold and teach that it is hereditary, and that, too, in face of the fact that it has been conclusively proved in a herd in Scotland, where a teacher had ample opportunity of testing the validity of the statements put forward.

No one will deny that it is spread by infection or is catching—to use a popular word—and I hold most strongly that if more importance was laid

upon its infectiousness, and the disease looked upon as *preventable*, much might be done by the stockowners themselves.

Time will not permit to take up other diseases, but although the precautions differ slightly, the principle is the same.

Now as to predisposing causes. It must not be taken literally that the tissues must have lost some of their vitality before the organisms can gain entrance, because in many cases it is the presence in large numbers of the organisms that lowers the vitality. In anthrax it is often the best, and what was considered the most healthy of the herd, that is found dead or dying.

The predisposing causes here are mosses, stagnant water, badly drained ground, insanitary surroundings, and bad food, but no matter how extensive the moss, how stagnant the water, how badly drained the ground, how insanitary the buildings, or how bad the food, without the bacillus anthrax cannot take place.

Preventive inoculation has never received the attention it deserves in this country, and on the Continent it is at least so successful as to warrant more general use.

Glanders.—The benefits and success of hygiene can be seen in the almost total eradication of this disease, and no better proof of its value can be adduced than the fact that years ago glanders was very prevalent in the army, but on the adoption of hygienic principles it gradually abated until now it is practically unknown.

So great predisposing causes are bad ventilation and drainage that many believed them to be the actual cause and said that the disease could arise by spontaneous origin. Like other diseases known to be of organismal production—although certainly predisposed by bad ventilation, no amount of impure air unless it contained the bacillus can give rise to glanders.

Tuberculosis.—The predisposing causes are bad ventilation, bad drainage, overcrowding, forced milking in cows, and being born of a diseased parent.

I am distinctly of opinion from all the works and statistics on the disease I have read and from my own observations in this and other countries, that in only a very few cases is the calf born with tubercular lesions even when dropped by a tuberculous cow. The calf is born *predisposed* or *tuberculisable* if you like—although I have not yet proved to my own satisfaction that a calf born of a tuberculous parent is more predisposed to tuberculosis than any other disease and am inclined to think that it is simply born with its tissues in such a condition that they form most suitable media for bacterial growth.

There are so many calves born of tuberculous mothers and the bacillus tuberculosis is so ubiquitous, that we are inclined to think that they are born with a greater predisposition to tuberculosis than any other disease of bacillary production. Now I ask, if the atmosphere in which these calves were reared was contaminated to the same extent by the organism of pleuro-pneumonia, would they not as readily contract pleuro-pneumonia?

However, the object of hygiene is to have the atmosphere as free as possible of all germs, and this can only be done by removing the calf, as soon as it is dropped, from the contaminated building to another, the air of which is kept pure and not contaminated by the breath of an affected animal. The use of tuberculin enables us to detect affected animals, and efficient ventilation ensures pure air. But is there efficient ventilation of our stables and byres? If there is, it is not because of legislation on the subject. As to stables, there is practically none, and byres—other than cowsheds—are in a somewhat similar position. In all towns and most country districts there are laws and regulations as to cowsheds, but most prominence is given to the amount of cubic space insisted upon for each animal, and although mention is made of lighting and ventilation, in but rare instances are any conditions laid down as to how they are to be carried out.

This imperfect legislation is well seen from the following:—

MANCHESTER.—A person following the trade of a cowkeeper or dairyman shall observe the following regulations with respect to every cowshed in his occupation:

I. He shall provide for the effectual lighting thereof in all parts.

II. He shall cause every cowshed in his occupation to be provided with adequate means of ventilation, and to be properly ventilated at all times when such cowshed is in use.

V. Cowshed to contain for each animal space of at least 600 cubic feet.

BIRMINGHAM.—IV. He shall cause the ventilation of every dairy and cowshed in his occupation to be by means of a sufficient number of permanent openings or windows in the walls on two opposite sides of the building, or in the wall on one side and in the roof, as the case may be, so as to afford effectual means of ventilation by direct communication with the external air. Where such openings and windows are constructed so as to close, he shall cause provision to be made by openings in an external wall of such dairy or cowshed, or by some other effectual method or appliance, so as to afford adequate means of constant ventilation.

Cowshed to contain an air-space of at least 800 cubic feet for each animal kept therein.

LIVERPOOL.—I. He shall cause every dairy and cowshed in his occupation to be lighted in such manner as to secure the passage of light into every part of the interior of such dairy or cowshed.

Ventilation exactly the same as Birmingham.

Cowshed to contain air-space of at least 600 cubic feet for each cow.

LEEDS.—I. Every cowshed shall be sufficiently lighted, to the satisfaction of the local authority, by windows or openings in the roof or walls.

II. Every cowshed shall be sufficiently ventilated, to the satisfaction of the local authority, by ventilators or by openings in the roof or walls.

Cowshed to contain air-space of at least 600 cubic feet for every animal.

Single stalls to be 7 ft. by 4 ft. broad.

Double ,, 7 ft. by 7 ft. ,,

CARLISLE.—I. He shall provide every dairy and cowshed in his occupation with all necessary and proper means of lighting and ventilation, to secure the health and good condition of the cattle therein.

Ventilation exactly same as Birmingham and Liverpool. Cowshed to contain 600 cubic feet free air space for each cow.

EDINBURGH.—I. He shall at all times provide proper light and ventilation for his premises to the satisfaction of the medical officer of health, or any other person or persons authorised by the local authority.

GLASGOW.—There shall be provided in each cowhouse or byre, windows or openings in the walls or roofs, the dimensions of which shall be not less than 3 square feet for each animal stalled therein, and the windows or openings shall be so formed that free access of fresh air may be had to the cowhouse or byre. Byre to contain 800 cubic feet of air space for every animal. Walls to be not less than 9 ft. 6 in., nor greater than 16 ft. in height.

Stalls to be single—7 ft. by 4 ft. broad.

,, ,, double—7 ft. by 7 ft. ,,

DUNDEE.—I. The lighting shall be by one or more substantial lights in the roof or walls, the dimensions of which shall not be less than 3 square feet for every animal.

II. The ventilation of dairies shall be sufficient to maintain therein at all times a sweet and wholesome atmosphere, and shall be sufficient for the health and good condition of the cattle therein, and shall be by a through draught from opposite openings in the walls, and ventilation in the roof.

Byre to contain not less than 800 cubic feet for each animal. Provision must be made to the satisfaction of the said local authority, or their inspector, for the constant admission of an abundant supply of fresh air, and the removal of polluted air.

ABERDEEN.—I. Every dairy or cowshed shall be properly lighted and ventilated by lowered sky or side lights, to the satisfaction of the local authority or sanitary inspector: cubic capacity, 800 feet.

DUBLIN.—I. Every cowshed shall be properly constructed, as to be at all times well lighted and ventilated, and shall be ventilated by means of ventilators in or near as possible to the roof, and placed at intervals of not more than 12 feet apart. Byre to contain not less than 500 cubic feet for each animal, unless open like Belfast.

BELFAST.—Every cattle shed shall be so constructed as to be at all times well lighted, drained, and ventilated.

Byre or shed, unless open throughout the entire length of one of its two longer sides, to contain 400 cubic feet for each animal contained therein.

I hold that ventilation and lighting are of more importance than cubic capacity, and am of opinion that authorities should stipulate the minimum of ventilation and the size of windows required, as well as the cubic capacity.

Most of the regulations insist upon each cow having 600 or 800 cubic feet of air space, and that the lighting and ventilation shall be to the satisfaction of the local authority. Of course, by the construction of the building, and by limiting the number of cows contained therein, the cubic capacity becomes fixed, but not so the lighting and ventilation.

Although the cows may have each 800 cubic feet of air space, unless sufficient air is admitted, and the impure air allowed exit, the byre will soon become foul, so that large cubic capacity, without efficient ventilation, is of little value. The real use of large cubic air space is to prevent too rapid changes of temperature taking place in the atmosphere of the building.

Efficient ventilation depends upon—

I. The amount of air required for each animal.
II. The source of the air supplied.
III. The size of the inlets and exits.
IV. The principle of construction of the inlets and exits.

The amount of air required by cows is a most important subject, but if it has been studied the literature is scant and perplexing. Parkes quotes Märcker who gives the quantity required as 30 to 40 cubic metres per hour for every 1,000 lbs. weight.

According to this an average cow of 1,200 lbs. weight requires 1,484 cubic feet per hour, but Parkes considers this absurdly small and says he sees no reason why the same rule as applies to man should not also apply to animals, viz., 20 to 25 cubic feet per hour for every lb. of weight. This would mean that the 1,200 lbs. cow would get from 24,000 to 30,000 cubic feet per hour.

Smith quotes Boussingault who states that a cow of 990 lbs. inspires 2,782 cubic feet of air in 24 hours and produces 122·3 cubic feet of Co_2. According to this a cow of 1,200 lbs. weight requires 30,000 cubic feet of air per hour to keep its surroundings pure and healthy.

Smith states that from his own experiments on the horse Boussingault's table gives double the amount of air required.

My own results* calculated on Kühn's experiments with Pettenkoffer's respiratory apparatus show that a cow of 1,200 lbs. weight requires 25,000 cubic feet of air per hour.

Pettenkoffer's apparatus is exceedingly exact, and I can with confidence assert that cows kept for dairy purposes require 25,000 cubic feet of air per hour, per head.

II. *The source of the air supplied.*—On no account should the air pass through another building before entering the byre, but all ventilation to open directly to the external air.

* The atmosphere normally contains ·04 per cent. per Co_2.

The amount of contamination that can take place without ill-effects is ·02 per cent. Thus the permissible amount in the air of byres is ·06 per cent., or 1 cubic foot of fresh air can take up ·0002 cubic feet of Co_2. Kuhn found that a bullock 1,400 lbs. weight excreted 122·4 cwt. feet of Co_2 in 24 hours.

It must not be contaminated by gases rising from food stores, boilers, manure stanses, cesspools, and drains.

Byres should be prohibited in the immediate neighbourhood of soap works, tallow works, manure works, and such like, as there the air is laden with impurities. In large manufacturing towns, where the air contains large quantities of the products of combustion, particular attention should be paid to the efficient ventilation of byres.

III. *Size of inlets and exits.*—In calculating the size of the inlets and exits, we have to take into consideration the amount of air required and the influence of the wind.

We have seen that an average cow requires 25,000 cubic feet of air per hour, and we know that on a calm or still day the air is travelling at the rate of $4\frac{1}{2}$ feet per second, or about three miles per hour.

From these figures we find that an inlet, having an area of 1·67 square feet or 240 square inches, will admit 25,000 cubic feet of air per hour when the wind is moving at about three miles an hour.

It does not seem to be sufficiently understood that there must be exits of the same size as the inlets.

IV. Principle of construction of inlets and exits.—It seems to be general that the windows of byres have also to act as ventilators, and to this there is no serious objection, provided they are kept open. A most suitable size of window is one 3 ft. by 2 ft. 6 in. wide, and by the upper part opening inwards it acts as an excellent ventilator. To find how much of the window has to be open to admit 25,000 cubic feet, divide 240 square inches by the breadth of the window in inches.

Thus—2 ft. 6 in. = 30 inches. $240 \div 30 = 8$ inches, so that the window has to be open 8 inches. If the window was only 2 ft. wide, $240 \div 24 = 10$ inches, and so on.

An exit has to be provided of the same area to allow this air—now impure—to escape, and the best place for this is in the roof. It should be made on the louvre principle, but care should be taken to have the area of the opening sufficiently large and protected by broad boards.

It will be noticed that this ventilation is much more than is allowed for horses, but it should be remembered that the horse is out all day, whereas in many town byres the cows are never out from the day of their purchase to the day of their sale.

In asserting that cows require 25,000 cubic feet of air per hour, and should have at least 800 cubic feet air space, I anticipate the question—"Will they be warm enough?" To many a dairyman this is of vital importance, because he is convinced that keeping his cows in warm byres causes them to be more liberal milk producers. I admit there is a degree of truth in this, since less energy is required to produce and maintain the body heat, and there is no objection to dairymen keeping their byres at an artificial temperature, but there are very decided objections to the method by which this condition is obtained. It is obtained by allowing the animals small air space and changing the air contained therein as seldom as possible.

The air is not heated by being in contact with the bodies of the cows, but by the presence in large quantities of the products of combustion or oxidation through the medium of their breath. The warm atmosphere of byres consists of air which has been repeatedly used for respiratory purposes, and thus becomes foul, and which ought to have escaped to make room for the purer air. In short, the byre is kept warm by inefficient ventilation, and where the cubic capacity is small, it cannot be otherwise, for if there be efficient ventilation, the air is changed so often as to cause a draught—a thing no dairyman would tolerate—so to prevent draught the ventilation is sacrificed. In buildings with large cubic capacity, the air does not require

to be changed so frequently, thus there can be efficient ventilation without draughts, but the temperature is not so high. The question now resolves into:—Efficient ventilation, with natural temperature and a natural supply of milk, consequently health, against inefficient ventilation, with artificial temperature and an increased supply of milk, consequently impaired health.

In the meantime the dairyman has to choose for himself, but I would like the State to choose for him, and, by legislation, enforce the first condition. If a dairyman wishes his byre to be kept at a higher temperature he can use some mechanical appliance, such as steam-pipes or heating the air before it enters the building; but on no account is the temperature to be raised at the expense of the ventilation.

Fortunately, it is difficult to shut in or out air, and warm air will escape upwards if it can, leaving room for the cold or purer. This law, combined with the liberality of nature as to the supply, makes it probable that the animals receive a greater supply than was intended of that essential air which the ignorance of man is so ready to treat as an enemy instead of a friend.

Gentlemen, we have seen what ventilation has done to eradicate some diseases; we know what it is doing to stamp out others; and I think we can look forward with confidence to the time when, because of more attention being paid to the lighting and ventilation of our byres, cows, instead of being a constant source of danger to humanity, will be sound and healthy living monuments to the benefits that accrue from the practice of hygiene.

NATIONAL VETERINARY ASSOCIATION.

Traumatic Diseases of the Horse's Foot.

BY W. WILLIAMS, F.R.C.V.S., F.R.S.E.

Gentlemen,—The Committee having determined that the diseases to be considered in this paper should be of traumatic origin have rather tied my hands by giving me such short text for my subject; however, I must do the best I can, and crave that I may depart in one particular from the limitation by making some brief allusions to laminitis, not due to traumatic causes.

I should strongly recommend—and this applies more particularly to the younger members of the profession—not to neglect the removal of the shoe and examination of the foot in all sudden cases of lameness, although there might be evidences of alteration of structure in some part of the limb; in cases, however, where the lameness has gradually developed, the urgency of removing the shoe is a matter of opinion; it may be necessary or not.

The most common traumatic cause of lameness in the forefoot, in my experience, is due to pressure of the shoe inducing corns, and this more particularly in towns where the streets are paved; here it is almost impossible with ordinary shoeing to prevent the occurrence of corns, no matter how good and strong the foot may be and how careful the shoeing, especially if the horse has fairly high action.

Corns are confined to the fore feet, a corn in a hind foot being so rare as almost to be non-existent. I have certainly seen some indications of bruising at the seat of corn in the hind foot, but, like sidebones behind, they need hardly concern us.

Corns result from bruises involving the sensitive structures embraced between the bars and the heels, most frequently in the internal aspect of the foot, *i.e.*, inside heel, and due to pressure causing hæmorrhage from the sensitive sole, laminæ of the bars, or even from the laminæ of the wall, appearing as a red spot or spots when the horn is pared. It is stated that no inflammation follows unless the blood becomes infected. If it be meant by this that no lameness results unless there be infection by micro-organisms, I

must at once say that I cannot accept the theory, for if infection occurs suppuration must result, whereas corns cause lameness when there is no suppuration. It is very true that if a corn becomes neglected it may be converted into what is termed a festering (suppurating) corn, and most probably micro-organisms do become additional factors in intensifying the lameness.

(*a*) *Non-suppurating Corn.*—It is the usual and very common practice, after removal of the shoe, to pare down the corn almost to the sensitive structures, and this is done at every shoeing, much to the discomfort of the patient; then, perhaps, with a bar shoe and leather soles, the horse in a few days may be able to do some work. Now, I maintain that this is entirely wrong, that it sometimes leads to suppuration, particularly if the paring has been too close and the vascular structure wounded—it is, in fact, cutting down the foot to fit the shoe, or rather weakening the foot in order to prevent pressure from the shoe. Instead of this I remove the portion of the shoe which covers the seat of corn, and I have the animal shod with a "three-quarter shoe" and leave the horn as strong as possible after satisfying myself that the corn is there. Some horses go tenderly for a few days with this kind of shoe, but before the end of a week they are generally quite sound, and will remain so if continued to be shod in the same way. If the foot has been tampered with, the horn cut away, the sole weakened by paring, the animal should remain without shoes and have his feet in cold water, or poulticed for a few days, then the "three-quarter" shoes may be put on, leather soles being perhaps necessary adjuncts.

(*b*) *Suppurating Corns* are generally due to the too close paring of the sole, thus exposing the vascular structures, or to great neglect in the removal of the offending shoe. The treatment is—after removal of all detached horn—give free exit to the pus from below, or if the pus has burrowed upwards towards the coronet and be perhaps laying the foundation of a quittor, the detached portion of the wall should at once be removed. After being antiseptically dressed the foot should be enveloped in an anti-septic poultice, or, if dry dressing be preferred, as in severe hind foot cases, the raw surfaces should be dressed antiseptically and enveloped in antiseptic tow or oakum, retained in position by proper bandages, and as the formation of new horn progresses, tar dressing and non-interference. In this way a quittor may be prevented.

I say nothing about "conformation" being a predisposing cause of corn, as I see them in all kinds of horses required for speedy work, particularly on hard roads. Cart horses seldom have corns. We must therefore conclude that the concussive shock is the general and most frequent cause. Hunters have corns but they seldom cause lameness so long as they are worked on soft ground.

Both in festered corn and all other injuries to the foot there is a tendency to what is supposed to be the formation of fungoid growths—proud flesh. The supposed proud flesh is generally the congested and swollen sensitive structures, which sprout when the horn covering them has been removed, and thus obtain ease by diminished pressure. In all such cases search should be made to detect if any sharp piece of horn be pressing on the borders of the swollen tissues; if so, it should be carefully pared, and the irritation thus removed. The parts should then be dressed with a mild astringent and antiseptic dressing, such as a diluted goulard extract and carbolic acid. If, however, after the horn has been removed, the tissues remain prominent for some days, and are paler in colour, strong astringents and caustics may be advantageously used, but I recommend great caution, as I have seen the irritation and the sprouting of the supposed fungus greatly increased by such application.

Punctures of the Feet.—These may be divided into three kinds, namely—(1) Pricks in shoeing, (2) too close nailing, and (3) gathered nails. The first and second may be described under one head, the only difference between them being the thickness or depth of the puncture; in the one case the sensitive structures are actually pierced, whilst in the other there is no actual penetration of the nail into the sensitive structures, but it is inserted so closely that it causes some bulging of the horny laminæ of the inner aspect of the wall, so as to cause pressure on the sensitive structures within.

The detection of a drawn nail is sometimes difficult, as the course of the second insertion seems clear and plain, and can be traced from the solar aspect to its exit through the wall; but a careful examination, if the searching be done without causing hæmorrhage, will demonstrate the course of the drawn nail by revealing a small, dark discolouration of the horn; this must be searched to its termination when, perhaps, some degree of suppuration will be found. If the lameness and fever become more rapidly pronounced, say in from 12 to 24 hours, the horse may be cast, chloroformed, and the wall covering the seat of the injury, as well as the necrosed tissues, both soft and hard, removed. I have in a few cases been able to remove the necrosed material without "stripping," but greater satisfaction is attained by doing the thing thoroughly. The after treatment consists in dressing the parts antiseptically by covering the exposed sensitive surface with boracic lint or antiseptic cotton-wool, then packing with dry tow, retaining the whole in position by proper bandages—not string, as is often the case. Now comes the question of poulticing. No doubt relief is often given to the animal by placing the foot in a poultice. Some say warm, some say cold, for my own part, when much pain is present I prefer warm. There are two great objections to the invariable use of poultices:—

1st. If left to the care of the majority of stablemen they are apt to forget to change them, when, if bran or linseed meal be used they soon become dry and solid, and if any of the bran or linseed scales or husks gain access to the exposed sensitive structures they are very apt to cause increased irritation.

2nd. In severe hind foot injuries the horse is very apt to lift the foot from the ground, hold the leg in the flexed position causing the poultice to drag, and by increasing the weight induce increased irritation, intensifying the fever, and the general state of irritability.

In such cases I maintain that poultices are contra-indicated, and that light antiseptic dressings should be recommended. If it be deemed necessary to apply moisture, the foot and dressing can be saturated with water repeatedly during the day, or the foot placed in the fomenting tub. But there are objections to the fomenting tub, namely, the horse often objects to keep his foot in it but keeps continually lifting it out, and thus often increasing the irritation and fever; this, as well as the damage which is induced by the edge of the tub to the posterior part of the leg and hock, destroys any benefit that otherwise might be derived. With regard to continual irrigation, if the appliances are convenient, this method may be tried, but I must say that the more experience I have, the more inclined I am to favour light and dry dressings as less prone to favour the development of micro-organisms, being less irritating to the patient, and requiring far fewer renewals and interferences than the wet ones.

In an ordinary "prick," the usual treatment of removing the shoe, paring out the horn, and giving free exit to the pus, dressing antiseptically and poulticing, if not contra-indicated, are quite sufficient to effect a cure, care being taken when the horn is pared, that no ragged edges are left to press upon the exposed sensitive tissue. If, however, the lameness and other symptoms do not become modified, say, in two days, further search must be made, necrosed tissue exposed and removed as above stated.

Gathered Nails.—Nails or other pieces of sharp, penetrating substances are frequently picked up, more especially by horses working in engine-making yards, railway stations, forges, packing yards, and less frequently on roads and in fields, particularly where town manure is used. It is but seldom that the sole is punctured, the usual seat being one of the commissures of the frog. Of course, it must be understood that a sharp, pointed piece of iron may penetrate any portion of the sole or frog, but penetration at any part except at one of the commissures or cleft, is uncommon. The gravity of the resulting consequences will depend upon the depth and site of the puncture. If superficial, removal of the offending body and "dressing out" the part will generally be sufficient to restore soundness in a short time, but if deep, and when the pus has been incarcerated, even if the navicular bursa has not been penetrated, the consequences may be very serious. In all cases, whether the bursa has been penetrated or not, the puncture must be searched; of course, even the captious critic will understand that the offending body must be first removed and the hole thoroughly bottomed, all detached horn removed, and free exit given to the confined discharges; when this is done, the parts are to be dressed antiseptically, syringing in the antiseptic dressing if necessary, covering over with antiseptic cotton wool, and the whole foot enveloped in tow secured by bandages, and if no necessity arise for removal, left undisturbed for several days, the horse being placed in slings. Daily dressing and meddlesome interference must be avoided.

If the navicular bursa is not penetrated a continuance of this method of treatment should bring about some amelioration of the symptoms in the course of a week or so, but if there be a synovial discharge the intensity of the lameness may continue for a longer period, and yet the patient recovers eventually. If, however, the discharge becomes reddish in colour, the lameness meanwhile persisting and even becoming more intense, the case is to be looked upon as one of great gravity, as necrosis of the flexor tendon and probably purulent inflammation of the navicular bursa have resulted, and will necessitate, after the failure of other methods, an operation for the partial or complete resection of the flexor tendon. Whether the "partial" or the "complete" operation be decided upon, the animal must in all cases be cast and chloroformed, a tourniquet applied above the fetlock and, according to one method, the horny sole, bars, and frog are entirely removed; then a transverse incision is made through the base of the fibro-fatty frog (at the level of the posterior border of the navicular bone), and the anterior portion of this structure removed by two incisions along its commissures, meeting at the apex. The plantar aponeurosis, or expanded portion of the flexor tendon, is thus exposed, and will be usually found softened and gangrenous. Its terminal portion is to be removed by a transverse and two lateral incisions, as indicated above for the removal of the plantar cushion. The insertion of the tendon into the semi-lunar ridge, as well as the cartilage of the navicular bone, are to be carefully curretted with a Volckman's spoon.

The entire removal of the horny sole, bars, and frog, seems to me to be unnecessary. The "partial" operation, sufficient in the less serious cases, consists in thinning down the sole, frog, and bars. The sinus or sinuses are then to be opened up by the removal of an elliptical piece of the plantar cushion, so as to lay bare the aponeurosis, which is then to be scraped, or, if deeply necrosed, a piece should be cut out.

After the operation, "partial" or "complete," is concluded, the parts are to be ascepticised by irrigation with a solution of bichloride of mercury, 1 in 500. The cavity is filled with cotton wool saturated with the antiseptic, the foot enveloped in antiseptic tow or wood-wool—maintained in position by proper bandages, and kept dry.

(*To be continued.*)

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 285.)

Discussion.

Mr. TRIGGER said that the essayist had very ably and very fully tackled the subject, which opened up a vast field for discussion. Fistula in its various phases caused more annoyance than anything else to young practitioners, and indeed to practitioners generally. No one liked to see cases in his yard. He thought they were now dealt with far more scientifically, and yielded better to treatment than they did years ago. Still, cases of fistula were unsatisfactory both to practitioners and to their clients, and the sooner they get them off the books the better. With regard to poll evil, it was singular that they sometimes got a run on such cases. He had only had one case for a considerable time, but three or four years ago he had seven cases at the same time. Strange to say, three of them belonged to the same owner. Naturally, the first thing that suggested itself to his mind was that they were in a miserably low stable, but as it turned out, the stable was an extremely lofty one, and the horses could not have touched the top if they had reared. To summarise the treatment, he should say it was the knife and antiseptics. If they were dealing with quittors, the same rule applied, in his opinion. The most successful treatment in cases where they did not operate was a caustic plug made of bichloride of mercury. Probe and fill it up so solid that they could ensure it going into the wonnd, and leave it in for about a week. He had never had any bad effects from that, and he had had many successful recoveries. When they saw the hole it made in the foot it might frighten them, but he could certainly say that he had never injured any of the structures. To operate at once was the best thing, and if they could only get the case into their hands before it had been interfered with by nostrums, they had a better chance. The mischief was largely due to neglect on the part of the owner, who often tried to obtain remedies himself, but now they had shown intelligent people that the day of quackery had passed. *Apropos* of puncturing with the hot iron, if he might digress for one moment, he remembered the late Captain Russell telling him about taking out small nodules by penetrating with a hot needle. He (the speaker) had tried it successfully upon a hunter. He looked upon the application of the actual cautery in cases of quittors as very beneficial indeed, and the scientific man had an enormous advantage over the vulgar quack.

Mr. GOLD said he agreed that Mr. Brooke had treated this matter in a most able manner, but whoever read an essay, it was generally considered the duty of the audience to pull it to pieces afterwards. Mr. Brooke, in mentioning some of the cases of poll evil, fistula, and quittor, and especially poll evil, made no remark as to hereditary causes. He knew the idea would not suit some of those present, but as practical men they must have met with cases of poll evil in which the doctrine of heredity would apply. Before criticising the paper he would like to ask an important question, and that was, as they were taught, why on earth should suppuration take place either in the poll or fistulous wither after an injury to an inside tissue? Yet in poll evil they got not only ordinary pus, but a distinct kind of pus which was formed not only when there was injury to the muscles, but injury to the cartilage and injury to the bone. In speaking of poll evil they must agree that it was one of the worst cases to come into the yard, but in all cases of quittor, poll evil, or fistula he never failed to make a bold incision. He followed out the first sinus he came to so that he could get his fingers or even his hand in. In fistulous withers he opened the poll on one side as well as he could, and in some cases followed it up with setoning. In quittors he must disagree with Mr.

Brooke. In his (Mr. Gold's) opinion the best thing to do is to cast at once, take off the horn from the tissues and lay bare the part which is diseased. When they spoke of quittor he thought they meant a wound that had been going on for some little time, and in 90 per cent. of such cases he found there was already more or less diseased cartilages or diseased tissue. Bore down to the bottom of that if you like and put a plug in, but he found he lost a lot of time in so doing, and his treatment now was to cast the horse at once, take off the horn, and remove whatever was wrong. He was quite convinced that he could cure any case of quittor that came to him, although he would not guarantee to remove the lameness entirely. He well remembered the late Professor Walley laying down that the best treatment to adopt was the one to which he had just referred, but he (Mr. Gold) was some time before he held the same opinion. In dressing after an operation, some practitioners used arsenic, but he had never felt justified in giving it a trial.

Mr. TRIGGER asked Mr. Gold whether he suggested that heredity played a large part in cases of poll evil.

Mr. GOLD:—I don't mean that the disease of itself is hereditary, but certain predisposing conditions are hereditary, such as a high poll, and the position of certain ligaments.

Mr. SPENCER thought no one could get away from the fact that the best treatment of fistulous wounds was the free use of the knife and antiseptics, and there was no doubt that the use of antiseptics was productive of good in a very high degree. The difficulty was that it was impossible to use antiseptics in the treatment of fistulous wounds in the poll and withers, and his idea was that it would be better to treat that on the antiseptic principles of surgery. There were some cases in which, after having laid the sinus freely open, syringed out the whole of the pus and obtained a healthy surface, the wound healed until it came to the termination of the hole, when a sinus still remained. That was a case in which they could not very well use antiseptics. In answer to Mr. Gold's query, he must say that the presence of pus in the tissue unexposed to the atmosphere was nothing wonderful. Pus was to be found in the unexposed tissue, and the only way for it to be generated was through the blood stream, and it had been proved that fowls did not die of anthrax unless their vitality was lowered by dipping them into cold water. In most cases of poll evil the injuries giving rise to the condition are not done all at once. It was, as a rule, the result of a continual bruising of the part, and it would suppurate if the injury was sufficient to lower the animal's vitality.

Mr. GOLD said he quite agreed that it had been reported in theory that it was through the blood stream, but had it ever been proved? They must all of them remember cases where the structure has been destroyed and absorption of the destroyed structures has taken place without the formation of pus. There was depression in the horse's muscle, but no actual wound whatever. That was brought about by the destruction of the living tissue beneath the skin, but there has been no suppuration, and Mr. Spencer's remarks were not a real answer to the question.

Mr. MCGILL expressed himself in favour of early operation, and said that he himself had suffered from paralysis of the lower part of the body through an injury to the spine. That was about 10 years ago, and it was feared at the time that he would never recover, but he was now perfectly well. He attributed his recovery to the boldness of the operating surgeon. In veterinary practice he found that the free use of the knife was the best thing to begin with, for by laying well open and getting to the diseased part, they had every chance of success. He had seen some practitioners, and especially young ones, rather timid when a deep cutting was required, but he had got

over that himself, and if they were inclined to be too humane, for fear of frightening their clients, they had the case hanging on their hands for months. Generally speaking, he must say that he agreed with the remarks of the essayist.

Mr. BLAKEWAY thought Mr. Brooke had gone to a great deal of trouble to prepare his paper, and certainly several very interesting cases had been referred to. The title of the essay did not compel the author to mention every form of fistula, and there were some to which no allusion had been made. For instance, there was fistula of the ear, and he had personally had considerable trouble with such a case. In certain cases, if there was plenty of hair on, they might not notice anything at all, or they might find a little black spot, and in an examination it might easily be overlooked. Such a case was a very great nuisance, and they had to be particularly careful in operating, as any interference with the nerves might cause lop-ear, and so spoil the appearance of the animal. Another form of the disease was fistula of the sternum, whilst fistula of the anus was a source of great mischief and might also be missed in an examination, especially if the horse carries his tail low. He had lately had a case of fistula of the withers, and the lady who owned the animal was a long time before she would hear of an operation. She thought she could cure it herself with groundsel, marsh mallows, and the like. Eventually he (Mr. Blakeway) was allowed to treat the case, and this was what he did. He cast the horse straight away, made a bold incision right down to the seat of the mischief and followed it right up. There was tremendous hæmorrhage, and he put a plug in, sewed the wound up, and left it for three days. If one made a bold incision and left it at that, one was apt to get a sinus formed afterwards; one might even pretty well cure the case, but there would be a little kernel where the seton had been, and it would not heal up. Soak some string in bichloride of mercury, draw it through and leave it there for three or four days, and they would be most likely to get a cure. Mr. Trigger had spoken about needling tumours. He (Mr. Blakeway) had heard Captain Russell say that he used a cold needle and not a hot one. He had used a cold needle himself with astonishing success.

The HON. SECRETARY said that for a good many years he had scarcely seen a case of fistula, and he knew hardly anything about quittor. He thought that was the result of holding the man at the forge responsible for the horses while they were in his hands. About five years ago, however, he had a nasty case of quittor. His method of treatment was to expose the diseased surface and try to get a dependent orifice; then treat antiseptically. A good many years ago, when he was in pit practice, he had many cases of poll evil and fistulous withers to treat, and invariably tried to get a dependent orifice and remove any diseased structure. Mr. Gold appeared to dispute that suppuration depended upon the presence of pyogenic organisms for its production; but there were two ways by which those organisms might be introduced into the unexposed tissues—one was by the vascular means, and the other was through the damaged skin.

Mr. BURCHNALL could not agree with Mr. Gold that hereditary predisposition had much to do with the production of poll evil or fistulous withers. Where he had three or four cases occurring in one place, the first thing he should do would be to pay a visit to the stable. A very common cause was the bottom of the rack standing out from the bottom of the manger. He thought that in fistulous wounds what they had to aim at particularly was to destroy the walls of the sinus in one way or another. With regard to quittor his treatment was the hot iron. He used a thin, flat firing iron, probing into the sinus and inserting the iron; and he had never known it fail, no matter how long standing the case was. Sometimes it required several incisions, but he had never known the treatment fail. There was one curious fact about

animals that had suffered from poll evil which he would like to mention, and that was that he had never been able to turn them out to grass after they got well again. He was unable to explain that; but although whereas one animal on being turned out might not suffer in the slightest degree, four or five others would be sure to have a recurrence of poll evil.

Mr. ROSSELL said that he had adopted to a great extent the same measures of treatment as mentioned by the previous speaker. With regard to poll evil, his experience was that to cast the animal straightaway was the best thing to do.

Mr. WARTNABY said that in the treatment of fistula, he quite agreed with those gentlemen who advised thoroughly laying open tne sinus and applying the hot iron. That was the course of treatment he invariably adopted himself, and as far as quittor or poll evil was concerned he had had very little trouble with them. He would rather have two cases of poll evil than one of fistulous withers. He had had one or two of the latter cases in his career which he had been unable to cure. He agreed with Mr. Gold to a certain extent upon the question of heredity, and he had noticed the offspring of an animal that had fistula in one form or another were themselves very often affected. With regard to a remark made by Mr. Burchnall, he might say that he generally turned his horses out to grass and had them cured there, and they seldom broke out again. It was a somewhat longer process, but most effectual. He had also met with one or two untoward symptoms which they had no doubt experienced themselves. For instance, where a wound had healed up too quickly, a form of blood poisoning had set in. In such cases he opened the wound again, obtained a discharge, and the patient recovered. With regard to the use of the needle for the removal of tumours, he might say that Captain Russell, with whom he was once in partnership, always used a cold needle.

Mr. TRIGGER: I stand corrected on the matter.

Mr. TAYLOR: I should like to ask Mr. Wartnaby whether the needle was passed through laterally, or in any other special manner?

Mr. WARTNABY: In any way you like.

Mr. MERRICK, who was asked to express an opinion, said he thought the heroic treatment with the use of antiseptics was the best.

Mr. CROWHURST also thought that the best thing to do was to use the knife freely, and dress with antiseptics, and persevere with the case if it was not immediately successful.

Mr. GOOCH, Sen., said that he was a stranger amongst them, but he had nevertheless enjoyed the paper very much indeed. He had seen a vast number of cases of poll evil and quittors, and he found there was nothing equal to the knife. The mistake of a good many men, and especially young men, was that they did not cut soon enough. To plug with bichloride of mercury was an old form of treatment, but he must say he did not like it himself.

The PRESIDENT tendered to Mr. Brooke his sincere thanks for reading such a highly interesting paper. He was more especially pleased because on this occasion he had not been obliged to seek for an essayist beyond the members of their own association. With reference to the particular case which Mr. Brooke had dealt with, he was sorry he had not asked him to bring the horse with him, so that they could all see what a good cure had been effected. Everyone who did see it would admit that there had been a free use of the knife, and Mr. Brooke deserved every praise for his successful treatment of the case. He would like to ask Mr. Brooke whether he had ever heard of iodide of potassium being administered internally in cases of poll evil.

Mr. BROOKE briefly replied to the discussion, and said there had been few direct questions put to him, most of the speakers making remarks which were really supplemental to his own paper. He had not used the hot iron very frequently himself, and he should have thought if it were applied too soon,

especially in bone disease, it would be very mischievous. With regard to what Mr. Gold had said as to the introduction of pus into the unexposed tissue, he should say that the lowering of the vitality through the injury was a great inducing factor. He agreed with Mr. Blakeway that there were other forms of fistula, but it would have been too much to expect that he should deal with them all in the brief limits of his paper. In answer to the president, he could only say that he had never used iodide of potassium himself.

The PRESIDENT proposed that a hearty vote of thanks be given to Mr. Brooke for his instructive paper, and that he be asked to allow it to be printed in conjunction with the report of the meeting.

Mr. GOLD seconded, and said he should like to be permitted to add to his previous remarks. He did not know why suppuration took place, and whenever he asked scientific men they always adduced the same theory as Mr. Spencer, namely, that it was through the blood that the germs were introduced. However that might be, he certainly could not accept Mr. Malcolm's alternative theory that it was through the skin. If it was through the blood, he could understand that in the early stages of the disease the iodide of potassium treatment might be of some use.

The vote of thanks was carried, and Mr. Brooke suitably acknowledged the compliment.

Upon the motion of the PRESIDENT, seconded by Mr. TAYLOR, it was decided to hold the next quarterly meeting at Wolverhampton.

A vote of thanks having been accorded to Mr. Dawes for presiding, the members partook of tea together before departing for their respective homes.

J. MALCOLM, F.R.C.V.S., *Hon. Sec.*

NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY.

Half-yearly Meeting.

THE half-yearly meeting of the North of Scotland Veterinary Medical Society was held on Saturday in Marischal College, Aberdeen. Mr. William Anderson, Fife-Keith, President of the Society, occupied the chair.

Papers were read by Mr. Paterson, Cluny, on interesting cases occurring in his practice, and by Mr. Murry, Cullen, on "Mammitis and its Treatment." Both papers were of the highest merit, and led to an interesting discussion, which was taken part in by almost all the members present, viz.:—Messrs. James Thomson, Aberdeen; Alex. Wood, Turriff; Wm. Anderson, Fife-Keith; M'Lachlan Young, Aberdeen: Wm. M'Pherson, Huntley; James Murray, Cullen; James M'Bryde, Strichen; Wm. Marsden, Banff; John Pringle, Ellon; Alex. Paterson, Cluny; A. D. Dunbar, Nigg; etc.

In the course of the proceedings feeling reference was made to the loss the Society had sustained by the death of Mr. Cassie, Fingask, who had been one of the most respected and useful members of the Society. Satisfaction was also expressed with the progress of the Society, which has now, as reconstituted, been three years in existence, and is increased in membership and influence in a highly satisfactory manner.

At a special meeting held at the close of the ordinary meeting, Mr. Sievwright, Tarland, was elected President for the ensuing year; Mr. Young, Aberdeen, and Mr. M'Bryde, Strichen, Vice-Presidents; and Mr. W. M'Pherson, was unanimously re-elected Secretary and Treasurer; and the following gentlemen were appointed members of Council:—Messrs. J. Thomson, Aberdeen; C. M'Gregor, Kintore; G. Howie, Alford; T. Mellis, Inverurie; A. Paterson, Ballater; W. J. Marsden, Banff; and A. D. Dunbar, Nigg.

The members afterwards dined together in the Bon Accord Hotel. Mr. Young, Aberdeen, occupied the chair. The usual toasts were pledged, and a pleasant afternoon spent.

CONTAGIOUS DISEASES ANIMALS ACT, 1894 and 1896.

SUMMARY OF RETURNS OF OUTBREAKS for the four weeks ending September 24th, 1898.

ENGLAND AND WALES.

Pleuro-Pneumonia.	Swine Fever.	Glanders (including Farcy).	Rabies.	Anthrax.	Sheep-Scab (for month of August).
None	Outbreaks 131 Slaughtered 2,054	Outbreaks 58 Attacked 97	None	Outbreaks 23 Attacked 32	Outbreaks 22

SCOTLAND.

None	Outbreaks 21 Slaughtered 400	Outbreaks 3 Attacked 10	None	Outbreaks 7 Attacked 8	Outbreaks 3

IRELAND (for four weeks ending September 17th).

None	Outbreaks 23 Slaughtered 336	Outbreaks 1 Attacked 3	Dogs 11 Other animals 6 Destroyed 6	None	None

SUMMARY OF RETURNS OF OUTBREAKS, for the four weeks ending October 22nd, 1898.

ENGLAND AND WALES.

Pleuro-Pneumonia.	Swine Fever.	Glanders (including Farcy).	Rabies.	Anthrax.	Sheep-Scab (for month of September).
None	Outbreaks 108 Slaughtered 1,761	Outbreaks 49 Attacked 94	Dogs 2 Other animals 0 Destroyed 7	Outbreaks 36 Attacked 52	Outbreaks 31

SCOTLAND.

None	Outbreaks 8 Slaughtered 139	Outbreaks 3 Attacked 5	None	Outbreaks 8 Attacked 10	Outbreaks 3

IRELAND (for three weeks ending 15th October).

None	Outbreaks 11 Slaughtered 151	None	Dogs 7 Other animals 1 Destroyed 36	None	None

NEW DRUGS AND THERAPEUTIC AGENTS.

BY HAROLD LEENEY, M.R.C.V.S.

THE extravagant praise bestowed upon any and every new remedy by interested salesmen may well furnish ground for scepticism, and it is to be regretted that in the past veterinary periodicals have lent their pages to commercial adventurers posing as instructors in matters therapeutic.

The traveller of a wholesale druggist was permitted but a few years ago to write articles in one of our leading journals on his firm's *mistura nostra* and *tinctura mirabilis* without the guileless professor who edited the journal being conscious of his dupedom.

Any remedy coming from Germany, with the hall-mark of a foreign school, was accepted by both the medical and veterinary professions as a new gift of the gods. To the old pharmacist, who had seen scores of new marvels come and go, this was subject for amusement; but, like many other evils, it is working its own cure. New remedies are not vaunted without trial, nor do they fail to find their proper place in our armamentarium as being of permanent utility.

The "tabloid" is gaining ground even among the more conservative members of our profession, who, for a time, viewed it with suspicion. The great convenience of concentrated remedies of definite strength was sure to overcome all reasonable objections, but there are substances which we think lose some of their activity by evaporation as a preliminary to entering into the form of a lozenge or sweetmeat. We would not like to say that no decomposition takes place. Analysis is not sufficient to allay our doubts, because the physical condition of food and drugs is a matter of importance conveniently kept out of sight by those who profess to sell us all the nutrition of an ox in a teacup, and for a few shillings, or twice his food value, in the form of cocoa, for a few pence.

Taking the first tincture we put onr finger on, *Tinctura Camphora Comp.*,we are not satisfied that a tabloid of it can be made to contain camphor which is practically insoluble in water yet will readily dissolve in nothing else, when sold us in form of a tabloid. Then the benzoic acid, which we know to be so volatile, how is it compressed and made to dissolve equally well in water when we require to use it? and the essential oil, to which the tincture owes its familiar odour. These things may be prepared in *vacuo*, and analysis may show the active principle in the same proportion, but we must prove in practice whether the therapeutic value is the same. It may already be taken as proved that the value of a tabloid of atrophine or morphine is equivalent to that of a fresh solution, and the same may be said of many other preparations, but members will, we venture to think, derive much profit from a comparison of results obtained by the use of old-fashioned tinctures and the new and elegant form of tabloid, which, if equally reliable, come to us "as a boon and a blessing," like a certain brand of pens.

One word about physical condition of food and drugs. What is a "two-ounce pat of inferior Dorset" to "our boys," when home from school? Yet which of them could eat half that amount of butter without being spread upon bread or mixed with other food? Is not easy assimilation due to the physical condition in which it is taken?

As an example of the physical condition of drugs we may take that of aloes. A five or six dram ball will act as a purgative with no very marked effect upon the kidneys, but give the same quantity in solution and its aperient action is uncertain, while, in all probability, the urine smells strongly of the drug, and gives other evidence of its diuretic action.

Medicaments of the future will, doubtless, be dispensed in potent, portable, and permanent form; but while we are learning to use single drugs in tabloids for either oral or hypodermic introduction into the body, we shall do well to

advance cautiously, and not throw over well-tried friends because old-fashioned, bulky, or inconvenient in their behaviour.

Extracts from Foreign Journals.

LATENT GLANDERS.

THE very interesting observation which follows relates to an Ardennes horse, a dark chestnut, between fifteen and sixteen hands, 10 years old, and doing dray-work at Brussels. It should be remarked that in the course of the month of October, 1896, four horses belonging to the same owner had been slaughtered because of glanders. The disease had been introduced into the stable by a horse bought at a fair some time previously.

On the 3rd December, 1896, the horse was presented to the clinique of the veterinary school because of lameness of one of the fore legs; examination of the foot disclosed the existence of a keraphyllocele, which was at once taken out. A few days after the entrance of the horse into the hospitals of the school, we discovered the existence of a pronounced swelling of the hypoglossal ganglia on the right side; the gland was hard, non-œdematous, and insensible to pressure. We could only with difficulty discover a slight serous running of the nostrils; there was not the least trace of pus in this liquid, which was as clear as water. Strict examination of the two nasal cavities showed not the slightest anomaly in the mucous membrane, nor were there any cutaneous lesions either. Nevertheless, having regard to the housing in which the animal had been, we considered it as a very probable case of glanders, and isolated it. On the 8th December, 1896, the animal received in the shoulder a first injection of mallein, which was followed by an increase of temperature of 23° centigrade; the point of inoculation was the seat of a very large swelling, hot and sensitive to pressure, from which issued two lymphatic branches stretching towards the prescapulary ganglia. The horse refused his food, and showed some muscular tremblings. In face of a reaction so characteristic, we were more than ever convinced that the animal was badly glandered. However, in view of the complete absence of discharge, we were of opinion that the principal lesions had their seat in the lungs, and as the subject, by reason of this circumstance, was not very dangerous to those commissioned to look after it, we asked our Principal for permission to preserve the animal for experiment. Our intention was to subject the horse to several successive injections of mallein, in order to see if we should not end in obtaining the results already reported on different occasions in France, namely, absence of all reaction after injection.

On the 20th December the horse got a fresh injection followed by a thermic increase of 1·7°, accompanied by a characteristic organic reaction; on the 8th January, 1897, we performed a third injection, which gave rise to a reaction of 1·6°; on the 26th January the same injection gave an increase of temperature of only 0·9°, without any appreciable organic reaction. Finally, on the 24th February, a last injection caused an increase of temperature of only 0·6° without the least general effect. It should be noticed that during this time the swelling of the ganglia of the throat had completely vanished, and that the animal recovered its good condition. The wound resulting from the removal of the keraphyllocele was cicatrized and the animal limped no longer. The horse was, therefore, sent back to his owner. We thought, indeed, that there was no danger for other horses, seeing that he had never discharged. The owner was, however, recommended to bring us the horse from time to time to see if any new symptom were declaring itself or not.

The animal was put to work, and or a year we had opportunities of seeing him again at least ten times. In spite of his doing pretty hard work, we always found him in excellent condition, the ganglia of the alvens remaining normal. From March, 1898, onwards the horse showed from time to time a want of appetite, which lasted for some days. The general condition was also less satisfactory; the subject grew thin and showed less spirit for his work. The owner, thinking that these peculiarities might be attributed to the fact that he was casting its coat, was not over much troubled about it, and kept the animal working. Things were in this state when, on the 25th May, the horse was attacked with a pretty severe nasal hæmorrhage whilst being harnessed. Naturally alarmed, the owner begged us to examine the animal, which showed us the clinical symptoms of glanders. The general condition was still pretty satisfactory, but there was a muco-purulent discharge sticking to the circumference of the nostrils less plentiful on the right than on the left. Examination of the septum nasi showed us on the left side an ulcer situated near the opening of the nose, whilst by introduction of the thumb flatwise there could be felt on the right side and very deep down the presence of a nodule projecting on the surface of the mucous membrane, and hard to the touch. Finally, the hypoglossal ganglia were uniformly congested, but slightly more on the left than on the right; they were hard to the touch, and insensible to pressure. The existence of glanders being clinically demonstrated, we inoculated a guinea-pig with some of the discharge, and made an injection of mallein. We performed these two operations as much with the aim of showing their effects to the students as to confirm their conviction in regard to the existence of glanders. The two experiments, it only remains to say, were absolutely confirmative of the diagnosis made.

Slaughter of the animal took place a few days afterwards, and autopsy revealed to us some very remarkable lesions. In the nasal cavities we discovered, as much on the mucous of the septum nasi as on that which covers the turbinals, modifications of three kinds: first, grey-whitish nodules of varying size, hard to the touch, non-ulcerated on their surface and projecting very markedly above the surface of the mucous membrane; second, ulcerations of varying shape, some very small, others very large and resulting visibly from the union of several smaller ulcerations consequent on the molecular destruction of the mucous tissue separating them; some of these ulcerations were pretty superficial, most of them, however, reaching deep down into the mucous dermis. In some spots the mucous membrane was totally destroyed; third, quite superficial erosions cutting slightly the epithelium of the mucous, and reminding one of the larvæ produced by insects on the surface of leaves. In the lungs we likewise met with three very distinct kinds of lesions, but all disseminated in the mass of the pulmonary tissue; there were scarcely any confluent lesions. The lesions were:—(1) Rounded nodules, hard to the touch, formed of a fibrous husk, enclosing a caseous mass which could be easily crushed. (2) Much harder nodules, also composed of a fibrous husk, enclosing a cretified mass, which grated under the cutting instrument and resulted from calcareous infiltration of the caseous nodules already referred to. (3) Grey, transparent tubercles, in pretty considerable numbers, and surrounded, most of them at least, by a red and very distinct aureole. These latter lesions were evidently of quite recent formation. Inoculation into a guinea-pig of the tissue of these tubercles, triturated in distilled water, led to the formation of characteristic ulcers in the guinea-pig; the same experiment, made with the cretified matter, gave no result; finally, out of three guinea-pigs inoculated with the caseous mass got in the first lesions mentioned, only one contracted an ulcer. Examination of the hypoglossal ganglia showed no glanderous lesion in their

texture ; these ganglia were simply hypertrophied ; besides, inoculation into a guinea-pig of the juice squeezed from these ganglia was negative.

If we seek at present to interpret the evolution of the so characteristic glanderous lesions discovered on autopsy, we ought reasonably to admit that our patient was not completely cured when sent back to his owner in 1897. The horse not having been since then in circumstances likely to cause contamination, we cannot plead a fresh infection. It is incontestable that a great number of pulmonary lesions were cicatrized ; the proof of that is the presence of a great number of cretified tubercles. It is even probable that a certain portion of the caseous tubercles had become inoffensive, or did not enclose more than an insignificant number of glanderous bacilli, whilst out of three guinea-pigs inoculated, only one contracted glanders. We, therefore, think that this horse, at the moment when it was returned to its owner, was still the bearer of glanderous germs, but that these germs were in such small numbers, or had undergone such attenuation, that they were incapable of making their effects felt upon the system. At a certain moment, whether as a result of too much hard work or of weakness following on casting its coat, the animal must have been situated in such physiological circumstances that it was no longer capable of offering sufficient resistance to the action of the germs, and it was then that the latter must have multiplied or acquired a new virulence to such a degree that they were able to set up the new lesions discovered in the lungs and nasal cavities. The lesson to be drawn from this observation is that there is good cause to be very prudent before setting free horses which, after having shown symptoms of glanders, have been apparently cured. It is better to keep them under a strict surveillance for a very long time, seeing that in the present case the fresh lesions did not appear till 15 months afterwards. These horses ought not to be allowed to move about freely until they are inoffensive to their neighbours, that is to say, when they have ceased to discharge.—(*Annales de Médecine Vétérinaire.*)

MALLEIN AND TUBERCULIN.

THE question of the diagnostic, curative, and immunising value of mallein and tuberculin has not yet received a definite solution. From the curative point of view, the use of tuberculin has given very unfortunate results in man. As to what concerns the diagnostic value of tuberculin, it may be affirmed that 90 to 95 cases per cent. of latent tuberculosis are revealed by this product. The rare cases in which, in spite of an elevation of temperature after injection, tuberculous lesions have not been brought to light, cannot even be considered as having an absolute value. Indeed, one may find oneself in presence of a case of latent tuberculosis quite at its commencement, or the tuberculous lesions have escaped notice on autopsy. In a great number of cases, tuberculosis is not localised in the great splonchnic cavities, but rather in the meninges, articulations, testicles, penis, teats, etc. It may with reason be admitted that tuberculin may exercise a curative action on tuberculous subjects of the bovine species, for experiments made in Russia on great estates have demonstrated that after a first injection a very great number of subjects gave a pronounced reaction, whilst after four to six months certain of these animals no longer reacted. When these latter were killed, old cretified lesions were discovered, but no fresh modifications at all. It may therefore be admitted that a relative cure may take place in certain mild cases in which the lesions are discrete and only slightly pronounced. The disappearance of reaction must no longer be attributed to a certain accustoming of the system to the effects of tuberculin, for in grave, incurable cases reaction always takes place, no matter what number of injections have been

performed. Experiments undertaken at the Imperial Institute of St. Petersburg have shown that gradual injections of tuberculin, performed both on young animals and on adult subjects, ended in their sharing immunity against inoculation either of very virulent tuberculous bacilli, or of any tuberculous product whatsoever. The considerations brought forward with regard to the subject of tuberculin apply in a great measure to mallein, which ought to be considered as a means of diagnosis, and even of cure. M. Semmer also thinks that just as there is a mild form of syphilis which can be cured, so also is there a form of tuberculosis and of glanders which is benign and curable.—(*Oesterreichische Monatsschrift.*)

NOTES ON RABIES.

M. Chauveau communicates to the *Société Centrale de Médicine Vétérinaire* a note by M. Galtier, professor at the Lyons Veterinary School. The following are the points noted by M. Galtier:—

I.—The surveillance of six weeks imposed in the case of bitten herbivorous animals is insufficient.

In the numerous cases of rabies observed by the Lyons professor, he has ascertained that if the period of incubation generally lasts less than six weeks in herbivorous animals, it is none the less true that after this lapse of time rabies may still be on the point of showing itself, and may develop afterwards. Witness the case which he reports of a goat with kid, which was bitten on the 6th February, 1897, and in which the signs of rabies showed themselves 66 days after the bite.

II.—Is the duration of incubation influenced by the state of gestation?

In regard to this, this is how M. Galtier expresses himself: To sum up, it would be impossible to accord any credit to the view which would consist in admitting that the state of gestation may modify the evolution of rabies. There have been coincidences; but the explanation of prolonged incubations may be sought in the intervention of other influences. It seems better established, by my observations and experiments, that gestation has no influence on the duration of incubation, or that it may even have the effect of shortening it and precipitating the evolution of the disease, when it is accompanied by illnesses or complications.

III.—Rabies of the goat, though with difficulty transmissible by the patient, may ,however, be communicated by bites and lickings.

The author has observed that for three days three young goats were bitten, snuffed, and licked by their mother who had been attacked by rabies; only one of them died of rabies after an incubation of 28 days, whilst the two others remained absolutely immune.

IV.—Seats of the virus; the milk of the goat affected with rabies has not transmitted the disease to the kids which sucked it.

The virus exists in the spittle, the buccal saliva, in certain organs, in the nerves, in the nervous centres, principally in the bulb, as Professor Galtier has shown. On the other hand, the blood, lymph, urine, muscles, sperm, excremental matters, the liver, and the spleen are considered exempt from virulence. Although the milk has been found virulent in very rare cases, the author declares that he has never recognised this peculiarity.

V.—Does rabies in incubation exercise any influence on gestation? Is rabies hereditary, that is to say transmissible by intra-uterine contagion?

From all the facts observed by the author in numerous subjects, goats as well as ewes, bitches, doe-rabbits, and guinea-pigs, he concludes: "That rabies in incubation or already developed does not hinder regular parturition and does not injure the further development of the young, when the precaution

is taken to withdraw them from contagion *post natum*, and when they can be artificially reared. One may then confidently consider that rabies in incubation does not exercise any manifest injurious influence on the progress of gestation and on accouchement." Nor does rabies seem to be transmissible by hereditary, or intra-uterine contagion. This is, besides, demonstrated by the vain attempts at inoculations performed by M. Galtier, with nervous centres of the fœtus, found in the uterus of females dead of rabies in different phases of gestation.

VI.—Frequency of rabies at Lyons: period from 1882 to 1897; influence of muzzling and non-muzzling.

The Lyons professor adds to his work a very interesting table of the cases of rabies observed at the Lyons School during a period of fifteen years; a table which indicates very clearly the considerable diminution of rabid subjects, when a muzzling order is in force, and on the other hand an immediate and very marked recrudescence of these cases of rabies when the order falls into desuetude. M. Galtier then establishes the fact that the muzzling of dogs may have very salutary effects and may contribute largely to the diminution of rabies. The same fact has been established in London.

We are glad to register statistics of this kind. Would that they were known by all the public, which, led into error by a certain section of the press, criticises unceasingly the measures taken by the authorities when a case of rabies declares itself, and relying thus on the fantastic ideas of some journalists, does not apply or does not apply properly, the rules prescribed in an occurrence of this kind.—(*Bulletin de la Société Centrale de Médicine Vét.*)

Correspondence.

MR. LONG'S DOGS' BILL REDIVIVUS.

THE HIGH ELMS, NUTFIELD, SURREY,
10*th October*, 1898.

SIR,—In view of the recent announcement that Mr. Long intends to attempt to pass his Dogs' Bill next session, may I be allowed space in your columns to suggest that before Parliament grants additional powers to the Board he represents it might be as well to investigate the conditions under which that Board is working. Taking into consideration the fact that this Government Department has only recently been called into existence, and that certain of the functions it exercises (notably the regulation of the dogs of a city), are a good deal outside its province, it would not be unreasonable to expect that the Board would have supplied its own lack of knowledge and experience of such matters with the knowledge and experience of veterinary experts. Such, however, has not been the case; as at present constituted, the veterinary, *i.e.*, the scientific and expert element in this Department, is conspicuous by its absence. Laymen, not veterinary surgeons, are the permanent officials of the Board; laymen—naval and military officers—not veterinary surgeons, are its travelling inspectors. Worthy gentlemen one and all, no doubt, and I would be the last to grudge them their high salaries and good retiring allowances, if such were paid for naval or military services. What, however, is wanted of them is exact veterinary knowledge, and this, it is obvious, could only be supplied by men who have had special training in a veterinary college.

This is a condition of things which calls loudly for reform. Reform should precede supply, and before Parliament proceeds to pass the grant for this Department's expenditure, or to confer upon it additional powers, it should be

ascertained whether the highly-paid permanent officials of Mr. Long's staff are competent to exercise the powers they already possess.

I am, Sir, faithfully yours,

FRED. E. PIRKIS,

Hon. Treasurer, National Canine Defence.

THE CONTINUANCE OF THE MUZZLING ORDER IN THE WEST RIDING.

THE HIGH ELMS, NUTFIELD, SURREY,

October, 1898.

SIR,—The stereotyped reply of the Board of Agriculture to the application of the Cleckheaton District Council for the withdrawal of the muzzling order in the West Riding will come as a disappointment to dog-owners, who, disbelieving in the existence of rabies in the district, not unnaturally desired that official and systematic persecution of their dogs should cease. Will you kindly allow me space in your columns to inform the above Council that the National Canine Defence, 151, Strand, will supply gratis to all applicants copies of the Dogs Act of 1871, which empowers local authorities to make their own laws for stray or ownerless dogs, and thus renders Board of Agriculture legislation for dogs unnecessary. It is obvious that stray and ownerless dogs are the only ones for whom legislation is needed, and if these are well looked after by local authorities it is equally obvious that there can be neither reason nor excuse for vexatious meddling with the dog that is owned, licensed, and well cared for, and for whom the owner is already sufficiently responsible.

The gentlemen composing the Cleckheaton District Council should at once state clearly and emphatically their views on the muzzle and muzzling orders to their Parliamentary representative, requesting him to give force to them at the ensuing session. Forms for this purpose will also be supplied gratis by Mr. Knight, Secretary, at 151, Strand, W.C.

I am, Sir, faithfully yours,

FRED. E. PIRKIS,

Hon. Treasurer, National Canine Defence.

Obituary.

Hancock, H. M., Uxbridge, Middlesex	May, 1849.
McNair, Robert, Blairgowrie, Perthshire	April, 1884.
Willows, S. F., Cirencester .. F., April, 1892	April, 1871.
Cooper, J. Hixon, Dover	April, 1867.
Oliver, A. C., Bridge Place, Worksop	May, 1895.
Barker, Richard, Middlewich	March, 1892.

Communications, Books, Journals, etc., Received.

Veterinarian; Record; British Medical Journal; Lancet; Report of the Bombay Veterinary College for year 1897-98; Chemist and Druggist; Bulletin of The John Hopkins Hospital; The Journal of Comparative Medicine and Veterinary Archives; The Scottish Medical and Surgical Journal; American Veterinary Review; Cattle Tuberculosis, by T. M. Legge, M.A., M.D., D.P.H.; The Public Health Journal; The Journal of the Jamaica Agricultural Society; The Surveyor; The Photogram; Queensland Agricultural Gazette; Petersburg Veterinary Society's Journal; C. H. Huish, H. J. Dawes, H. Locke, C. T. Kingzett, F.I.C.; Irish Times; Bulletin U. S. Department of Agriculture—Sheep Scab; La Riforma Veterinaria (Naples); Recueil de Médecine Vétérinaire (Alfort); L'Echo Vétérinaire (Liège); Annales de Médecine Vétérinaire (Brussels); Berliner Thierärztliche Wochenschrift (Berlin); Deutsche Thierärztliche Wochenschrift (Hannover and Karlsruhe); La Clinica Veterinaria (Milan); La Revista Veterinaria (Buenos Aires); Agricultural Journal (Cape Town); Bulletin de la Société des Sciences (Bucarest).